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a Journal for the

ARCHITECT & CONSTRUCTOR

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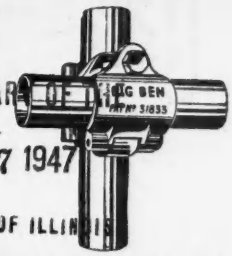

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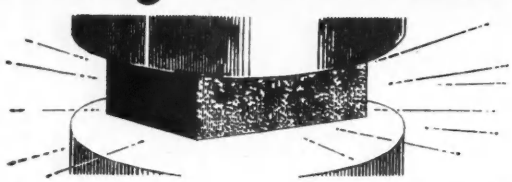

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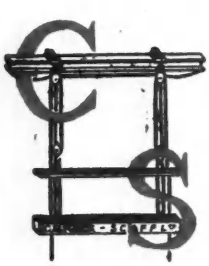

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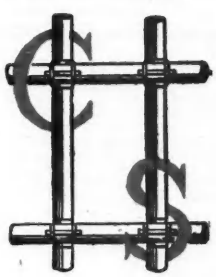

THE BUILDER

INCORPORATING

"ARCHITECTURE" AND "THE BRITISH ARCHITECT"

VOL. CLXXIII OCTOBER 3, 1947 No. 5459

UNIVERSITY OF ILLINOIS

ACCESS TO THE COUNTRYSIDE

THE article in our issue of July 25 on the report of the National Parks Committee referred to the appointment of a special sub-committee to deal with the preservation of footways, either existing or desirable, to give the public access to the country, and thus to encourage an appreciation of the amenities that this provides. This committee has now made its report,* which deals very fully with the legal aspects of the case, and includes many recommendations as to the steps to be taken to deal with the various interests concerned.

The main long-distance routes proposed by the general committee are accepted, and the measures to establish them laid down. They include the following as those of the greater importance. The Pennine Way, a magnificent hill walk of some 250 miles from Edale, in Derbyshire, along the Pennines and over the Cheviots to the Scottish border; nearly three-quarters of this is already existing. Next we have the route along the face of the Chilterns known as the Icknield Way, which should be extended towards the north-east to the Gog Magog hills at Cambridge, and south-westerly by the Berkshire Ridgeway to Avebury, on to Warminster, Cerne Abbas and ending at Seaton Bay, some 200 miles, of which 140 at present exist, then the Pilgrims' Way from Winchester mainly along the North Downs to Canterbury, with another route along the South Downs to Beachy Head. These two join at Winchester, with one crossing Salisbury Plain in a westerly direction, and connecting with the Chilterns-Seaton Bay route near Avebury.

Two further recommendations are the line of Offa's Dyke running from the North Wales coast at Prestatyn to Chepstow, a distance of roughly 150 miles, requiring about 50 miles of new footpath, and the public right to use the Thames towpath from Teddington to Cricklade; this last is at present being considered by the Thames Conservancy Board and the local authorities. In addition to these, the matter of coastal footpaths is regarded as demanding further attention as to the work required for reopening and linking up the old coastguard paths as a right of way for walkers round the shores of this country. The present proposals include just under 900 miles of coastal footpaths, whereas the total coast line of England and Wales is 2,751 miles.

The demand of townsfolk, some 80 per cent. of the whole population, for access to the country is undoubted. Two societies alone, the Ramblers Association and the Youth Hostels Association, report memberships of 100,000 and 170,000, while there are several others on similar lines, on which there are heavy and increasing demands while at the same time free access tends to diminish; the needs of the Services for manœuvres and training space, the protection of water supplies, the cultivation of rough pasture and afforestation have cut severely into the wild open country; uncounted country footpaths have been ploughed up and many others have been lost owing to decreasing use, or illegal closure when resistance was too feeble to be successful. The origin of many of our footpaths dates back to the Roman or even to prehistoric times; it is not therefore surprising if some have been abandoned owing to changed conditions, but it is now clear that this process ought not to continue as they are now of service not merely to those in the immediate neighbourhood but to town dwellers and the population of the country as a whole.

It is pointed out that there are three types of "right of way"—Footpaths, for pedestrians only; bridlepaths, for riders as well; and driftways, for cattle (including all animals being driven) as well as for riders and pedestrians. No specific widths are prescribed by law, but whatever width has been subject to public use remains public for ever. Only in the case of bridlepaths the Highway Act of 1835 gives a minimum width of 8 feet.

Many of these ways have become unsuitable for their original purpose and are in danger of being lost if a careful survey is not made to indicate their existence. The inquiries from County Councils in regard to this have not been encouraging, and while Parish Council areas are regarded as too small, it is suggested that the Rural District Council might undertake the work with Borough and Urban District Councils operating in their areas. The County Council is obviously the co-ordinating body and should bear the responsibility, but the help of those with a more intimate knowledge of the smaller areas is required. The Government departments concerned would be the Ministry of Transport and that of Town and Country Planning.

The subject of maintenance and repair is complicated, and some legal simplifications are advisable. In general, it will be best to place the statutory liability for repairs and maintenance on the highway authorities; only in special cases is an enlargement of a footway desirable, as this involves compensation to the landowner, and might also injure the amenities. At the same time, the safety of the pedestrian should be guarded by regulations against damage by agricultural operations, bulls at large, and dangerous excavations for quarrying, etc. The highway authorities should provide adequate signposts and should decide whether the riding of cycles on any route should be permitted.

The report sets out the present position as regards public access to uncultivated land in general, the long series of efforts that have secured open spaces for the people, the effect of Section 193 in the Law of Property Act, 1925, and the provisions in the Access to Mountains Act, 1939, giving in particular the numerous exceptions of various types of use which preclude free access to land other than that employed in agriculture. The report also urges that the public should reach a better standard of responsible behaviour in the countryside and that a "Country Code" should be prepared and published for its guidance. This, and the many legal measures needed to bring about the fulfilment of the programme laid down, will demand a fair amount of arduous and skilled work by the Government and the authorities concerned. The provisions for compensation to landowners will alone be the subject of very serious discussions.

*Footpaths and Access to the Countryside. Report of the Special Committee (England and Wales). *Presented by the Minister of Town and Country Planning to Parliament by Command of His Majesty, September*, 1947. London: H.M. Stationery Office. Price 1s. 3d. net.

NOTES AND NEWS

Bridgwater and the Man in the Street.

Now that the scene of the recent C.I.A.M. Conference has resumed its normal rôle as a small Somersetshire town, it would be well to attempt to assess the value of the meeting and some of the conclusions arrived at during this "get-together" of so many noted architectural personalities—personalities drawn from many corners of the earth, from the fastnesses of Chairs of Architecture many thousands of miles away, from lucrative practices in countries practically untouched by any sort of crisis, and even from this country, where modern architecture, as a definite and desirable step forward from the past, seems as far off as ever before.

Obviously, at a conference on modern architecture, the question of prefabrication was certain to crop up, and the age-old subject of the mind-and-matter of the man in the street given another thorough airing. This man is still apparently not reconciled to innovation; he is still steering his mentally muddled course through sentiment and tradition with the self-same inertia, and is not yet capable of seeing what magnificent new vistas the best modern architecture opens, or will open up for him. So say the moderns!

This negative approach has been pursued with varying intensity by modern architectural theorists since the early days of the Bauhaus at Dessau: few people dispute the good influence created by the logical approach as taught by Professor Gropius in those now far-off days, but, unfortunately, the simplicity of those early ideals have become saturated with so many economic processes that the lesson has been practically forgotten. The man in the street is willing to learn; that fact was never more plain than it is to-day. His willingness has perhaps been enhanced by the country's economic position, but continually to pin him down as a reactionary is merely to use him as a punch-bag and to seize upon the situation as a not particularly impressive argument for building out of the vernacular.

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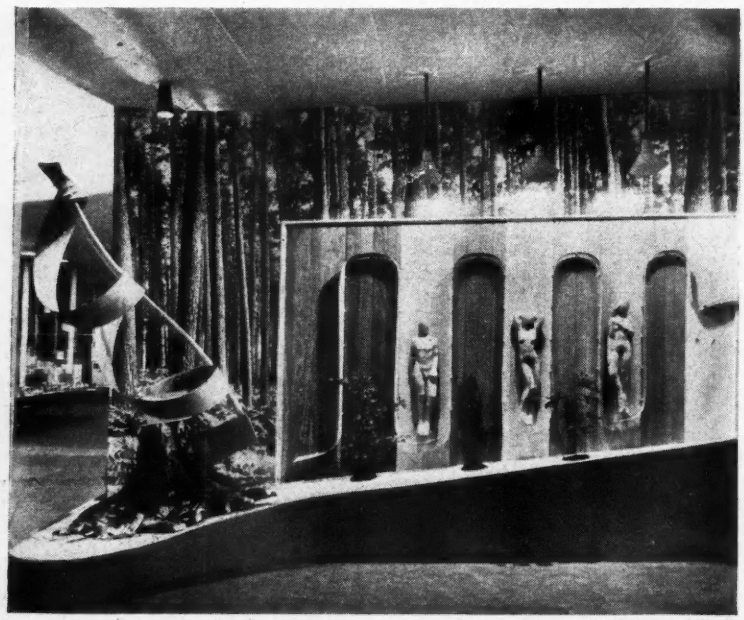
The Truth About Prefabrication.

THE rather pathetic truth is that at the moment everybody wants prefabrication, possibly in the sense that a dying man holds on to a straw; but the whole theory of this form of construction is based upon the saving of labour and the meeting of emergency. This emergency is being partially met in this country, and we have yet to hear any man in the street deriding this form of construction; rather he is grateful for small mercies; in fact he would settle for anything.

In one of the lectures at the conference, the old quip was mentioned "that modern architecture entered the home by way of the modern kitchen and bathroom." This has always seemed to us to be one of the more unfortunate allusions to the subject. The more expensive kind of American domestic architecture possessed the most impressive kitchens and bathrooms well over thirty years ago; many of them would hardly look out of place in any house of to-day, yet the houses in which these innovations were placed would be enough to make most of the delegates at the conference cry into their beer. "Modern" architecture entered the home in the mind of the architect during that curiously brash period in the late 'twenties when nothing but something new would do. It started with reinforced concrete and glass as the basic materials for providing the unenlightened people of this country with a suitable background for a brave new world. New planning theories were tried, and no effort was spared to convince the man in the street that what had gone before was so much nonsense, that he ought not to be happy in whatever house he was living unless it boasted of at least a flat roof. A new way of life was abroad; it was all connected with the new outlook which seemed to vacillate somewhere between Aldous Huxley, William Morris, H. G. Wells and Le Corbusier. This rather sporadic movement has been with us ever since in varying degrees of intensity; it depended upon which technical journals you read, or what school of architects you knew. If, however, the architectural observer could have achieved a "Rip van Winkle," and only quite recently come to, in all probability he would have had the shock of his life. Almost unwittingly, the change has taken place; glass areas have been reduced to a sensible size, a sense of the beauty of material has been reborn, and plans have regained much of their original logic and grace. As for the kitchens and bathrooms, they are still in the lap of the specialists. Architects design the rooms and the position of the doors and windows, but the specialists have quite a say in the matter too. However, the conference was probably great fun, but we did overhear someone saying last week "Why Bridgwater?—wouldn't it have been a better gesture if it had been held on a bombed site down at Bethnal Green?"



"ENTERPRISE SCOTLAND, 1947." Seen above is the Timber Development Association's Stand at this Exhibition. The three figures are the work of Norman Forest, A.R.S.A., the woods used (left to right) being oak, pine and larch.

Walking Through Glass.

BEXHILL (Sussex) is proud of its ultra-modern entertainment centre, the De la Warr Pavilion, and keeps the huge plate-glass windows—a feature of the building—immaculately clean. Result is that three of the windows have been smashed recently by visitors who have attempted to walk through them. Borough Council officials are now considering whether to put up a rail to prevent further accidents. If one can forgive anyone for using the words "ultra-modern," this little titbit of news from a daily newspaper is rather amusing; certainly walking through (possibly ¼-in.) plate glass is a habit it would pay anybody to forget. However, as a gesture, it certainly has something of the grand manner about it. Not being particularly determined walkers ourselves, we would in all probability be held up by a sheet of transparent tissue paper, but obviously there are strong and not so strong walkers, and somehow we feel that a person who can walk through a plate glass window wouldn't be easily deterred by a little thing like a railing.

Teaching Water-Colour Painting.

A NEW technique in the teaching of water-colour painting is providing new vistas for United States war veterans studying art at the Birmingham Veterans' Administration Hospital at Los Angeles, California. A recent show exhibited quite creditable paintings executed by initiates who had handled their brushes and colours for only three weeks to four months.

Developer of the new technique is Mr. Richard Sortomme, who calls his system "The Subjective Approach to Painting." Says Sortomme: "Whereas the conventional or school system operates on

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a presumption that the student has a developed imagination or else he would not be studying art, this system sets out to develop the imagination of the would-be, part-time artist." Embryo art pupils are thoroughly grounded in how to make washes, basic brush strokes, composition, colour and the integration of colour. The method does not argue for an "easy road" to art knowledge, but stresses functional "easier ways" to the establishment of sustained interest, and a real desire for self-improvement. One of the basic tenets is to do simple things extremely well before even attempting the complex.

The key to the subjective approach is that one's memory is rich in stored-up subject matter. Through careful cultivation of the imagination, the art pupil learns, from the very first time he handles a brush, to go back to any place or any time in his experience and use that place, time and experience functionally and with relative accuracy.

Planner's Visit to U.S.A. and Canada.

MR. F. J. OSBORN, chairman of the Town and Country Planning Association's Executive, sailed for North America on Wednesday, September 24, on the "Mauretania." Between that date and Christmas Eve his itinerary includes Washington, New York, Boston, Chicago, the Tennessee Valley, Los Angeles, San Francisco, several cities in the Middle West, the Pacific North-West, and the South. He is also paying a short visit to Canada at the request of the Dominions Office, to speak at a National Conference on Community Planning.

Sponsors of the visit are the American Institute of Planners, who, jointly with the Government-controlled Federal Housing Agency, issued the invitation for the visit.

Apart from the addresses he is committed to deliver at Yale, Harvard and other universities, the Federal Government wish to consult him about the planning and administration of their Greenbelt Towns, for which he is particularly well qualified.

English Planners in Switzerland.

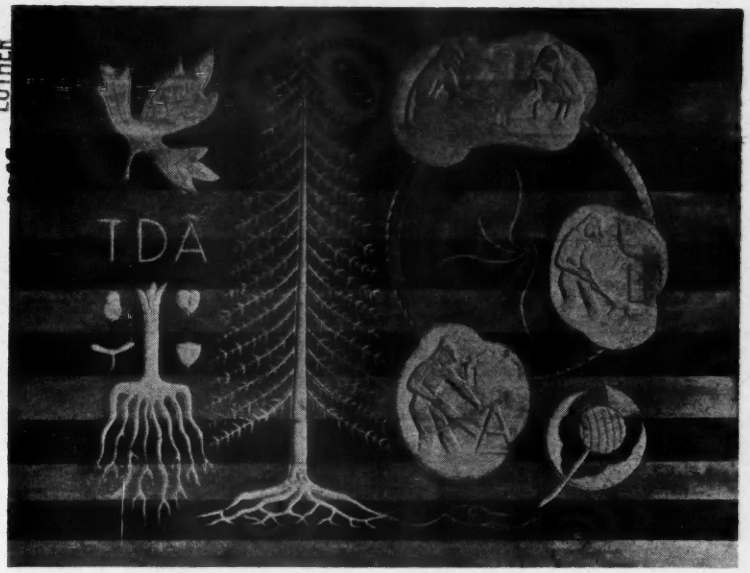
A TOWN and Country Planning Association party of English planners left for Switzerland on September 20. Included in the party are Mr. Herbert Jackson, joint winner of the Crystal Palace competition, and collaborator with Sir Patrick Abercrombie in the West Midlands Regional Plan, and Mr. T. Alwyn Lloyd, F.R.I.B.A., of Cardiff, past-president of the Town Planning Institute. Mr. K. H. Baruth, a planning expert from Haifa, Palestine, is also accompanying the party.

Leading the party is Mr. R. L. Reiss, vice-chairman of the Executive of the Town and Country Planning Association. The tour starts with a two-day Anglo-Swiss Conference in Geneva, and the party will then visit in turn Sion, Brig, Chur, Bad Ragaz, Zurich, Berne, Interlaken, Meiringen, Lucerne and Basle. Conferences and exhibitions have been arranged at Bad Ragaz, Zurich and Berne. The party will arrive back in London, on Sunday, October 5.

Dinner Arrangements Cancelled.

IN view of the recent announcement by the Government regarding large public dinners, the Quantity Surveyors' Committee of the Royal Institution of Chartered Surveyors announces that the Chartered Quantity Surveyors' annual dinner, which was to have taken place on November 26, will not now be held. The occasion was to have marked the revival of a popular pre-war function.

THE London Master Builders' Association has sent a donation of twenty guineas to the Builders' Clerks' Benevolent Institution, of which Mr. W. E. Rice, a former president of the L.M.B.A., is this year's President. Owing to restrictions on public functions, the annual dinner of the Institution, which was to have been held on October 7, has been cancelled.



"ENTERPRISE SCOTLAND, 1947." The mural seen above is another feature of the T.D.A. Stand at Edinburgh. Designed by Basil Spence, F.R.I.B.A., and carved by Thomas Whalen, A.R.S.A., the various symbols and carvings are set against a background of limewood stained in strips in alternate shades.

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COMING EVENTS

Monday, October 6.

SOCIETY OF ENGINEERS. Ordinary General Meeting. Mr. C. D. Mitchell, M.S.E., on "Prefabricated Pre-Cast Concrete Structures, including Floating Craft." The Geological Society, Burlington House, London, W.1. 5.30 p.m.

INSTITUTE OF TRANSPORT. Inaugural Meeting of 1947-48 Session and Presentation of Awards for 1946-7. The Institution of Electrical Engineers, Savoy-place, London, W.C.2. 5.30 p.m.

Tuesday, October 7.

LONDON MASTER BUILDERS' ASSOCIATION. North-Eastern Area. Luncheon, Ilford. Speaker: Mr. D. C. Burgess, Senior Vice-President, L.M.B.A. 1 p.m.

INSTITUTION OF HEATING AND VENTILATING ENGINEERS. Autumn Meeting of Council. 2 p.m., followed by banquet and dance, Savoy Hotel, London. 7 p.m.

Wednesday, October 8.

LONDON MASTER BUILDERS' ASSOCIATION (Central Area No. 1). Luncheon and 61st Area General Meeting. Derry and Toms Restaurant, High-street, Kensington, W.8. 1 p.m.

INSTITUTION OF HEATING AND VENTILATING ENGINEERS. Autumn Special Meeting of Members. The Institution, 72-74, Victoria-street, London, S.W.1. 2.30 p.m.

Thursday, October 9.

THE INSTITUTION OF ELECTRICAL ENGINEERS. Inaugural Address of the Session, by the President, Mr. P. Good, C.B.E. Lecture Theatre, The Institution, Savoy-place, W.C.2. 5.30 p.m.

TOWN AND COUNTRY PLANNING ASSOCIATION. Mr. E. Geoffrey Parsons on "Farming Policy for Agricultural Belts of New Towns." 28, King-street, Covent Garden, W.C.2. 1.15 p.m.

BUILDING AND ALLIED TRADES GOLFING ASSOCIATION. Autumn Meeting. Berkshire Golf Club. To be followed by annual general meeting.

Saturday, October 11.

ROYAL PHOTOGRAPHIC SOCIETY OF GREAT BRITAIN. 92nd Annual Exhibition, Part 2: Scientific, nature, record and technical exhibits. 16, Princes-gate, London, S.W.7. 10 a.m. Continuing until November 1.

Professional Announcements.

MR. T. S. TAIT, F.R.I.B.A., and his son, MR. GORDON TAIT, A.R.I.B.A., wish to announce that following the retirement of Mr. Francis Lorne, F.R.I.B.A., they are continuing the practice of Sir John Burnet, Tait and Lorne in both London and Edinburgh under the title of Sir John Burnet, Tait and Partners.

MR. G. M. VINE, A.R.I.C.S., has recently been taken into partnership by Messrs. Weatherall, Green and Smith, chartered surveyors, of 22, Chancery-lane, W.C.2, and would be glad to receive trade catalogues and information.

MR. R. S. BATSTONE, L.R.I.B.A., formerly staff architect to Messrs. J. Stone and Co., Ltd., engineers and founders, has now formed a partnership with Mr. John S. Hodges, A.R.I.B.A., under the title of John Hodges and R. S. Batstone, A./L.R.I.B.A., who will practise from 52a, Cromwell-road, London, S.W.7 (Western 3405), and will be pleased to receive trade catalogues and technical data.

COLONEL J. W. HENDERSON, B.Sc., A.M.I.C.E., will take up his appointment as Chief Engineer to the Hemel Hempstead Development Corporation, at Westbrook Hay, Hemel Hempstead, Herts, in November, and would be pleased to receive all circulars, catalogues and trade publications.

From *The Builder* of 1847

Saturday, October 2, 1847.

THE ARCHITECTURAL ASSOCIATION.—This society (a reconstruction, as our readers will remember, of the "Association of Architectural Draughtsmen") will hold their first conversazione at their new rooms, Lyon's Hill Hall, Strand, on Friday next [October 8].

* * *

Quietly and quickly the auditory of the Theatre Royal,* Drury-lane, has been wholly redecorated, affording us a fit opportunity to preserve for our readers a view of the interior of that building.

* This was Benjamin Wyatt's theatre of ** 1812, as remodelled by S. Beazley in 1822. The current decorations by Frederick Gye are seen in an accompanying woodcut, in which the architect, complete with tall hat and with hands buried in the tails of his frock-coat, is surveying the efforts of the carpenters. As for the decorations, "the ground of the whole is a faint blossom colour, approaching white, and the ornaments, which are all *appliqué*, are gilt."

BRITISH COLONIAL ARCHITECTURE

7.—TROPICAL COLONIES: CEYLON AND JAMAICA

By MARTIN S. BRIGGS, F.R.I.B.A.

THESE two Colonies, strange bedfellows, are selected here as representative examples—one in the Eastern hemisphere and one in the Western—of the immense number of British tropical possessions where architectural requirements differ from those in more temperate climates. There are dozens more in this category—East and West Africa, Malaya, New Guinea, and a string of West Indian islands, as well as parts of the Dominions of South Africa, India and Australia, treated here in separate articles—but lack of space restricts me to the chief Colonies.

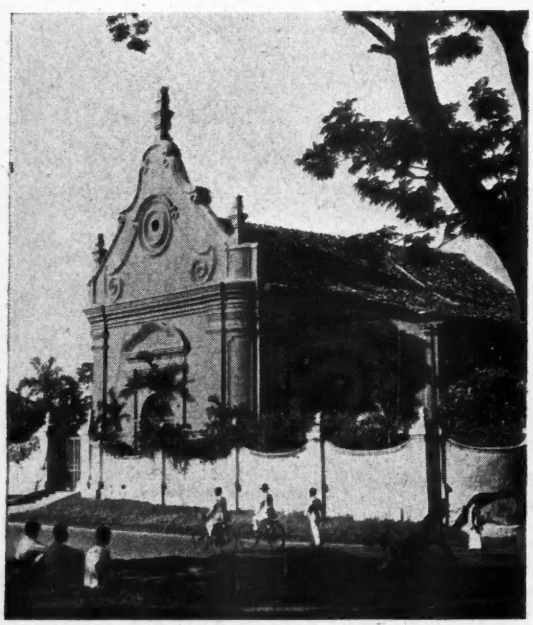
Ceylon resembles India in the great age of its civilisation and resembles South Africa in having a Dutch tradition, though a less important one, in its architecture. Its history before the British occupation in 1796 is a long one, going back to the landing of Aryan invaders from India in 543 B.C. These were the founders of the Sinhalese dynasty which ruled the island, with occasional interruptions, up to the arrival of European settlers 2,000 years later, and thereafter they retained their control of the interior until the British finally conquered their capital at Kandy in 1815. The Aryan invaders, who found primitive inhabitants already in Ceylon, introduced Indian civilisation, and within 40 years had constructed the great irrigation tanks which still exist near Anuradhapura. Early in the third century B.C. the island was converted to Buddhism, and one result was the building of an enormous number of dagobas, curious bell-shaped shrines of solid stone or brick, a distinctive feature of Ceylon. They correspond to the stupas or topes of Sanchi and elsewhere in India, and their influence was apparent even in some of the designs recently exhibited in the competition for Colombo Cathedral. Among hundreds of surviving examples, the most famous group of early dagobas is at Anuradhapura, the capital of Ceylon 2,000 years ago, founded in 437 B.C. Some of these strange structures are of immense size, one being 327 ft. in diameter, but they are found in all sizes down to a mere 2 or 3 ft. in diameter; many are in ruins. The essential characteristics of a dagoba are its solid structure beneath the dome, the cubical feature (*ti*) above the dome, and the lofty spire which crowns the whole. The celebrated Temple of the Tooth at Kandy

1. Kandy: Temple of the Tooth.

(Fig. 1) is a shrine visited by great crowds of pilgrims, especially at the annual festival of ten days in August. The temple proper consists of seven concentric metal shrines, enclosing a large lotus flower of pure gold, upon which rests the reputed tooth of Buddha, 2 in. long, but experts say that it is more like a crocodile's tooth than that of a man! The temple stands in a courtyard approached through a gateway shown on the left of the picture. The picturesque octagonal building, a library, contains a rare collection of Buddhist manuscripts on palm leaves. The date of these various buildings is uncertain. On the right is a small but typical dagoba.

Between the 10th and 15th centuries A.D., much of the trade of Ceylon was in Arab hands, though apparently that fact had little or no effect upon its architecture, but Arabs ("Moors") still remain in the island, mosques abound, and there is a striking example in Colombo in the "Indo-Saracenic" style, with eight minarets. The rule of the Sinhalese kings was always feeble, except for a brief spell of brilliance in the 12th century, and when the first Portuguese navigators arrived in 1505, by an accident of fortune, they found the island parcelled out into seven kingdoms. A dozen years later they established a factory at Colombo, and also built various fortresses around the coast. At Galle there are some remains of their *Fortalesa*, but their influence upon Sinhalese architecture was slight and their activities never penetrated the interior. One decisive effect of their occupation was the vigorous establishment of Roman Catholicism in the island by several missionaries.

When the Dutch appeared on the scene in 1602 their aid was solicited by the king at Kandy to drive out the Portuguese, who do not seem to have been very happy in their colonial venture, and in 1612 the Dutch built their first fort near Trincomalee. They evicted the Portuguese from Galle in 1640, Colombo in 1656, and Jaffna in 1658, thus obtaining control of all the useful harbours, but in their two centuries of occupation they never succeeded in conquering the interior, and the Sinhalese kings of Kandy continued to reign there. Thus the interesting Dutch architecture of Ceylon, built between *c.* 1640 and 1796, is mainly found in the three towns just mentioned, and their preaching of the Reformed Faith was confined within the town walls. The Dutch occupation of Ceylon lasted approximately as long as in South Africa, and many features are common to the buildings of the two countries—gateways to the forts, churches, belfries, verandahs (stoeps), outside staircases, gables, doorways and windows. A standard heraldic monogram bearing the initials of the Dutch East India Company was prescribed in 1603 and is found in Ceylon as well as at Capetown, whether carved in stone or wood, cast in metal (for use on cannon and swords), engraved on



Copyright: Werner Coutts.

2. Galle: the Dutch Church, 1752.

Copyright: Werner Coutts.

3. Colombo: the Wolfendahl Dutch Church, 1749.

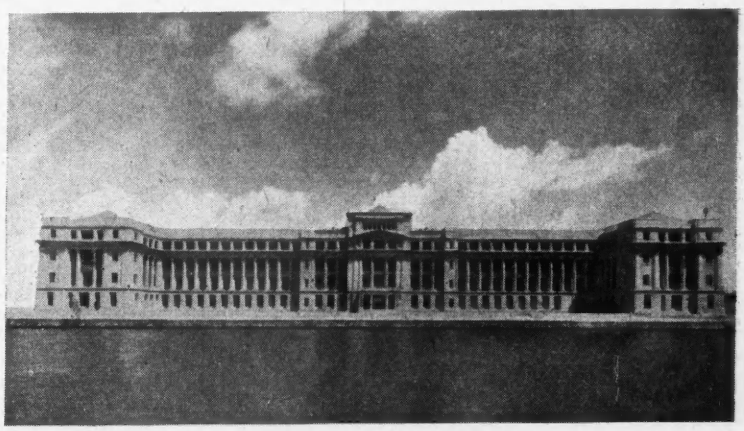
4. Colombo : the New Town Hall.

glass or painted on Delft china. It appears above the gateway of Galle Fort.

Most Dutch buildings in Ceylon, except the churches, are in less perfect preservation than those of the Cape, possibly due to the use of inferior materials and their consequently more rapid decay in a tropical climate. Many have been demolished since the British occupation. Most of the buildings in the towns were within the walls of the fort (still remaining at Galle and Jaffna) or just outside it in the "Pettah," the name still given to the old quarter of Colombo. The streets were—and some still are—lined with one-storeyed houses with low-pitched roofs and deep verandahs or stoeps supported on tall, slender pillars, giving the effect of a colonnade. There was a railing between the pillars, the floor of the stoep being a few feet above street level. Variety of design was provided in the different treatment of gable-ends, lintels over doorways and ornamental fanlights. The forts are not of distinctively Dutch design and were naturally built for use rather than visual effect, but those at Galle, Jaffna and Matara preserve their picturesque gateways. The fort at Colombo was demolished in 1862.

There are four remaining churches, formerly or still belonging to the Dutch Reformed Church, at Galle (Fig. 2), Colombo (Fig. 3), Jaffna, and Matara, also a few more in ruins. James Fergusson wrote of them in his famous *History of Architecture* that "they are of the worst class of meeting-house architecture," but taste has changed since his day. They were, in fact, extremely well constructed, and each was, like the Congregational churches in New England, the focus of each new settlement. Moreover, they did not all follow the "meeting-house plan," a plain oblong. At both Colombo and Jaffna they are cruciform in plan with a central cupola or lantern. The pulpit was not placed in the centre of one of the longer walls, as in English meeting-houses of the 17th-18th centuries, but at the junction of chancel and transept, and there were imposing stalls on either side of the chancel for the notables and elders. Their Baroque heraldry and elaborately carved fittings, including a large sounding-board over the pulpit, resemble contemporary European work. In all respects they afford a striking contrast to the Gothic churches built by the British during the early 19th century. The organ galleries at Jaffna and Galle and the "Commanderer's Pew" at the former are unusual and remarkable features. The church at Galle is of oblong plan, without a tower, and has a fanciful baroque gable. The dates of the three churches are : Colombo, 1749; Jaffna, 1746; Galle, probably 1755. At Batticaloa is a different type of church, with aisles dated 1678, but one authority suggests that the date refers to Dutch restoration of an older Portuguese building. Detached belfries were provided for some churches—*e.g.*, Galle and Colombo, the latter some distance from the church itself; and there are also belfries on the walls of Jaffna and Mannar. Outside the towns, apparently, no Dutch houses survive, though certainly they existed at one time. This is regrettable, for it would be interesting to compare them with Groot Constantia, Morgenster and other famous South African examples.

The so-called "Cape Gable," described in my third article as being, in Sir Herbert Baker's opinion, a mixture of French and Dutch elements, unknown in Europe, is, however, found in Ceylon. Stone, rubble-plastered over, and small yellow bricks were used for walling, the bricks being probably imported from Holland. Door-heads and fanlights displayed the playful and graceful baroque or rococo fancy found in similar work at the Cape. Some of the fanlights are of wrought iron. All mouldings in wood were worked on the solid. Many features of Dutch architecture have persisted in Ceylon up to recent times, among them, curiously enough, the



5. Colombo : the New Secretariat.

6. The Alley Church, near Vere, Jamaica, c. 1719.

use of detached belfries in connection with modern Anglican churches. Descendants of the Dutch settlers have formed a "Dutch Burgher Union" to conserve and maintain the traditions of their past.

Apart from the Dutch buildings just described, the chief buildings erected during the period preceding the British occupation were at Kandy, a beautifully situated town on a lake, which had served as the Sinhalese capital since 1592, but constant attacks upon it by Portuguese and Dutch had burned most of these, and in 1815 the only important buildings surviving were the royal residence and the picturesque temples. The Audience Hall of the Kandyan kings (1784-1820), which now serves as a Supreme Court House, is a picturesque building of nave and aisles, without external walls. The hipped roof, which has a double pitch, projects boldly beyond the lines of richly carved supporting posts and all its timbers are visible. Kandyan architecture is a term used to describe these peculiarly Sinhalese buildings of the 17th-19th centuries. Many Hindu temples are also to be found in Ceylon. Most of them resemble the temples of South India, with prominent gopurams or towers, and they are of all periods. One example at Galle has a Baroque gable of obviously Dutch origin, and behind it a dome as obviously derived from the dagoba form.

The buildings erected by the British during the 19th century in Colombo were mostly, as one might expect, from knowledge of other colonies, in the styles of the Greek, Gothic or Roman revivals. The Law Courts are pedantic Greek Doric, the Anglican churches are Gothic, and the Governor's residence at Kandy is standard Italian Renaissance. On the other hand, the Victoria Memorial Eye Hospital at Colombo is in an extraordinary variant of "Indo-Saracenic." Among recent buildings, the new Town Hall of Colombo (Fig. 4) is an imposing Renaissance building with a central dome, recalling the Victoria Memorial at Calcutta; and the New Secretariat (Fig. 5) is a somewhat more austere design in orthodox classic style. The winning design in the Colombo Cathedral competition, illustrated in *The Builder* on May 9 and September 5 of this year, is a far more daring effort, and shows considerable study of Oriental architecture as well as great originality.

The West Indian islands, discovered by Columbus in 1492, were then inhabited by a gentle, unwarlike people, easily conquered by the Spaniards, who introduced slavery there by 1503. It is rather shocking to read that the first British contact with the islands began with two of our national heroes, Sir John Hawkins and Sir Francis Drake, who joined in this traffic some 50 years later, carrying large numbers of unfortunate Negroes from Africa. The first English colonists settled at St. Christopher in 1623 and at Barbados in 1624. By that time the wealth of the West Indies had become known, and French and Dutch adventurers joined in the scramble to oust the Spaniards. Within a few years, many thousands of Englishmen had settled in the two islands mentioned; and in 1654 Cromwell despatched a fleet to inflict "reprisals" on the Spaniards. Unfortunately, the force he had collected for this enterprise consisted mainly of undesirables, military and civilian; so that the soldiers and settlers who remained in Jamaica when it was taken from the Spaniards in 1655 gave it a bad start. Conditions were soon mitigated by the transfer there of colonists tempted from New England, Barbados and Nevis. Slaves were then imported in vast numbers. It is estimated that in 1713 Negroes formed three-quarters of the population in the British-owned islands. By 1660 many of the colonists had become rich men with large plantations.

The Spaniards, who had occupied Jamaica for 150 years before 1655, were never numerous, and hardly a trace of their buildings now remains, but recent researches at Seville, one of their first settlements, have revealed some fine pilasters and reliefs carved with heraldry and grotesque ornament, evidently dating from the early days. The dwellings of the Spaniards, according to Sir Hans Sloane, who examined them in 1687-88, were usually one storey high, with two or three good rooms, a porch, and some smaller rooms. They were built of posts let deep into the ground, the sides being of wattle and daub or of split trunks of "cabbage trees" laid close together, the roofs being tiled or covered with palm-thatch. According to one account, "the lowness, as well as fixing the posts deep into the earth, was for fear their houses should be ruined by earthquakes, as well as for coolness." A later writer, in 1774, says that in his day there were 50 such houses still standing in Spanish Town, "very little the worse for time and weather," and he describes the roof construction, pantiles being bedded in a thick layer of mortar resting on wattle and daub, the total thickness being 8 to 10 in. In 1672 the British capital, Port Royal, contained "800 well-built houses"; in 1692, 2,000.

By that time English planters had become wealthy, but at first they seem to have spent little money on erecting substantial homes, and it was not till *c.* 1750 that the standard of these country houses became more ambitious. Then, although mainly constructed of wood, with a *piazza* or verandah for coolness, they came to be handsomely panelled in mahogany. Their owners lived the life of English country gentlemen—riding, fishing and shooting—indulged in lavish hospitality, drank and gambled heavily. The richer people also maintained town houses in Spanish Town, where there were balls, assemblies and concerts, as well as a theatre. Kingston rose to importance after the destruction of Port Royal, first by earthquake in 1692 and then by fire in 1702. It was also the headquarters of the West India Squadron of the British Navy. The finest surviving mansion of the 18th century in Kingston is "Headquarters House" in Duke-street, originally known as Hibbert House and built by a wealthy man of that name for his own use. The War Office purchased it as headquarters in 1814, but the

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7. (*Left*). Spanish Town, Jamaica: the Rodney Memorial, 1782.

8. (*Above*). Kingston, Jamaica: the Roman Catholic Cathedral. 1911.

Copyright: A. Duperly and Son.

9. Kingston: the Myrtle Bank Hotel, as rebuilt.

Jamaican Government acquired it in 1872 and the Legislature still meets in one of its lordly rooms. At Spanish Town the chief secular buildings of the 18th century are the King's House (1762), of which only the enormous freestone façade remains since the disastrous fire of 1925, together with the forlorn Portland stone columns of the portico. The stately Rodney Memorial (Fig. 7) adjoins it, erected in 1782 as a tribute to the famous admiral who was killed in a battle off Dominica during that year. Designed by Craskell, then "engineer of Jamaica," it contains a statue by Bacon of Rodney in inappropriate Roman garb.

Although Jamaica was settled almost simultaneously with New England, there was no religious impetus in the venture. The colonists came chiefly or solely to make money, but naturally many of them were royalists who disliked the Commonwealth régime in England. In 1664 there was only one church in the island, at Spanish Town: "a fair Spanish church ruined by the old soldiers, but lately in some measure repaired," said a contemporary writer. The present cathedral of Spanish Town is a red brick building of 1714 replacing an earlier church destroyed by a hurricane in 1712. The picturesque tower was added in 1817, and other alterations took place in 1901. The quaint old brick church at "The Alley," near Vere (Fig. 6), which looks even older than it is, was erected *c.* 1719. It was originally a simple structure about 33 ft. by 48 ft., with the present tower, but the eastern portion was added *c.* 1872.

The 19th century was a depressing period in the history of Jamaica, the prosperity of which was seriously affected by the abolition of the slave trade at the beginning of the century. From that date the planters found life much less amusing: higher wages had to be paid and alternative labour was hard to obtain. Thus, there was a steady decline of wealth, and one writer notes that "the public buildings were everywhere a disgrace to colonies which, at least in the past, had been prosperous." Besides the labour troubles, resulting in a grim Negro rising in 1865, there was the constant dread of earthquakes. After one of these, in 1692, the rector of the rich town of Port Royal wrote: "Whole streets, with their inhabitants, were swallowed up by the opening of the earth, which, when shut upon them, squeezed the people to death, and in that manner several were left with their heads above ground, and others covered with dust and earth by the people who remained in the place. It was a sad sight to see the harbour covered with dead bodies of people of all conditions, floating up and down without burial, for the burial place was destroyed by the earthquake." There were other similar disasters at intervals during the two following centuries, but when, in 1907, a terrible earthquake destroyed the greater part of Kingston, it had followed a relatively long period of immunity, so that the inhabitants had become careless in the type of buildings that they erected, not making adequate provision for resisting such shocks. Almost the whole city had to be rebuilt.

A recent and candid critic has observed that "one of the few good results of this disaster was the opportunity given to Kingston to erect buildings of architectural taste suitable for the tropics. Unfortunately, at that time, reinforced concrete was but a comparatively new form of construction, and architects had not yet become accustomed to its advantages and its limitations." Nevertheless, it has been used in most of the principal buildings erected since 1907. Three sharply contrasting examples of modern architecture in Kingston are illustrated here: the R.C. Cathedral, 1911 (Fig. 8); the rebuilt Myrtle Bank Hotel (Fig. 9), in the so-called "Spanish Mission style," also adopted for the picturesque *patio* of the Tourist Bureau; and the new Government Offices and Law Courts (Fig. 10), by Nicholson and Corlette, who also designed the rebuilt King's House.

[The final article in this series will deal with the architecture of Australia.—ED.]

Note.—The photographs for Figs. 2, 3, 4, 5, 9 and 10 are kindly supplied by the Imperial Institute; and for Figs. 6, 7 and 8 by the West India Committee.

CITY HOUSING PLAN

£1,000,000 SCHEME

A PROPOSAL of the City Corporation to acquire compulsorily a site of four acres in the Barbican area for the erection of working-class flats to house 905 people on the Corporation's housing list was opposed at a Ministry of Health inquiry on Tuesday, September 23, by property owners and business people who are waiting for the rebuilding of their war-damaged premises.

Mr. Erskine Simes, K.C., for the Corporation, said that 362 families on the waiting list consisted of people who had no claim on any other authority for housing. There were those who were bombed out, those living in overcrowded conditions, and the married children of City residents who required accommodation for their growing families.

The proposed site was considered most suitable because it adjoined the boundary of Finsbury, where the L.C.C. proposed to develop housing, and there would be available in the area the necessary community facilities, such as schools. There were only five occupied buildings standing on the site.

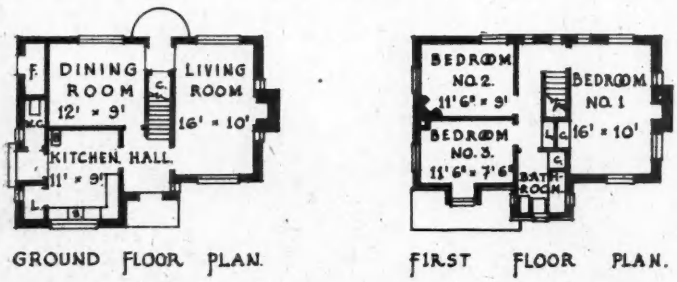
Mr. Francis John Forty, City engineer, stated that in no other part of the City was there a site as suitable as that proposed. He estimated that the cost of the scheme, including purchase of the land, would be about £1,000,000.

10. Kingston: the New Government Buildings.

HOUSE AT DORKING, SURREY : Entrance Front.

ILLUSTRATED ON THIS AND FACING PAGE ARE two houses recently completed in Surrey, designed by Mr. Geoffrey H. Haynes, Student, R.I.B.A. Both houses are of 11 in. cavity brickwork, and roofs are tiled. Construction of both is normal.

In the case of the house at Dorking (on the Bradley estate), it was not possible under the licence to finish the house as shown on the plans, and the dormer window to bedroom 3 has had to be omitted. The builder was Mr. R. Jordan, Dorking.

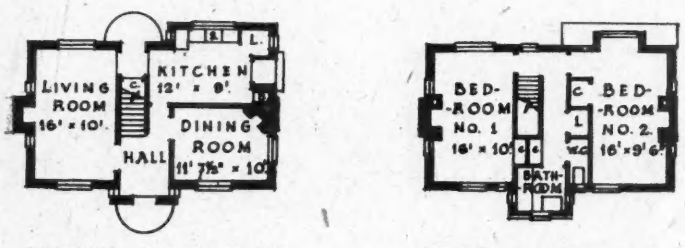


GROUND FLOOR PLAN. FIRST FLOOR PLAN.

Plans of House at Dorking.

TWO HOUSES IN SURREY

DESIGNED BY GEOFFREY H. HAYNES, STUD. R.I.B.A.



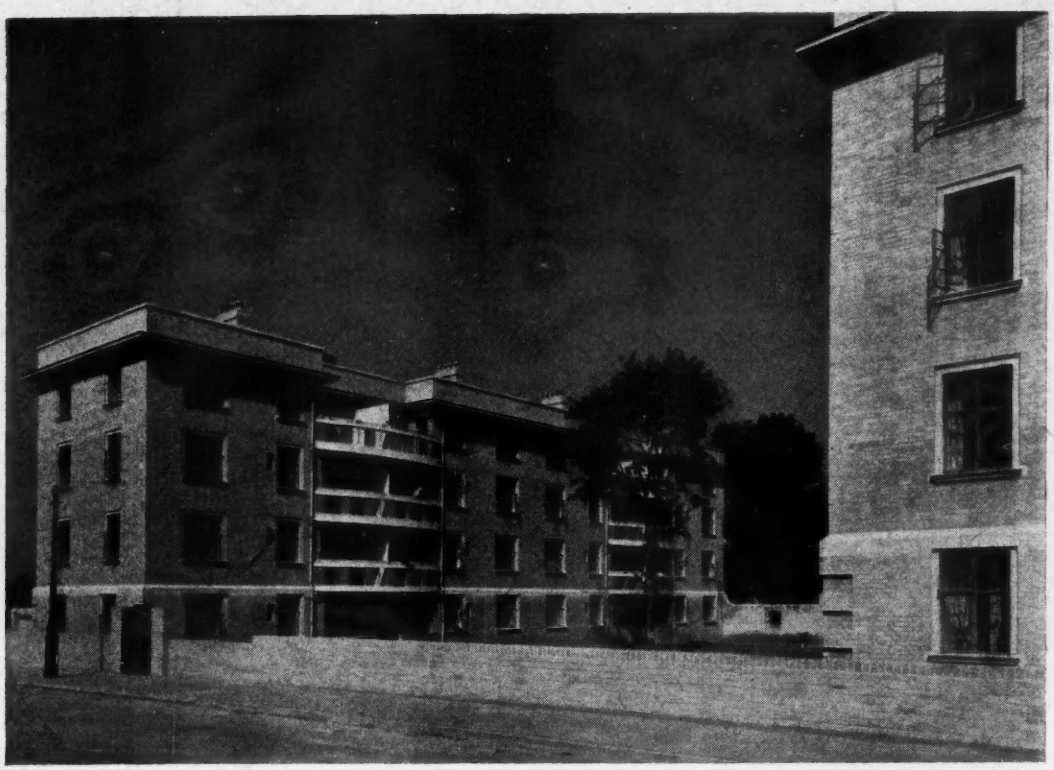
GROUND FLOOR PLAN. FIRST FLOOR PLAN.

Plans of House at Westhumble, Surrey.

The Entrance Front.

The Garden Front.

HOUSE AT WESTHUMBLE, SURREY



View from Fairlawn.

HOUSING AT GREENWICH

FLATS ON THE CHERRY ORCHARD ESTATE, CHARLTON, FOR THE METROPOLITAN BOROUGH OF GREENWICH

C. H. JENNINGS, M.Eng. (L'pool), M.Inst.C.E., BOROUGH ENGINEER AND SURVEYOR
C. W. CRASKE, A.R.I.B.A., CHIEF ARCHITECTURAL ASSISTANT

THIS ESTATE, OF APPROXIMATELY 26 ACRES, WAS acquired by the Greenwich Borough Council in 1937. By the outbreak of war the general layout had been approved, and but for the emergency which intervened building work would undoubtedly have been started by the spring of 1940.

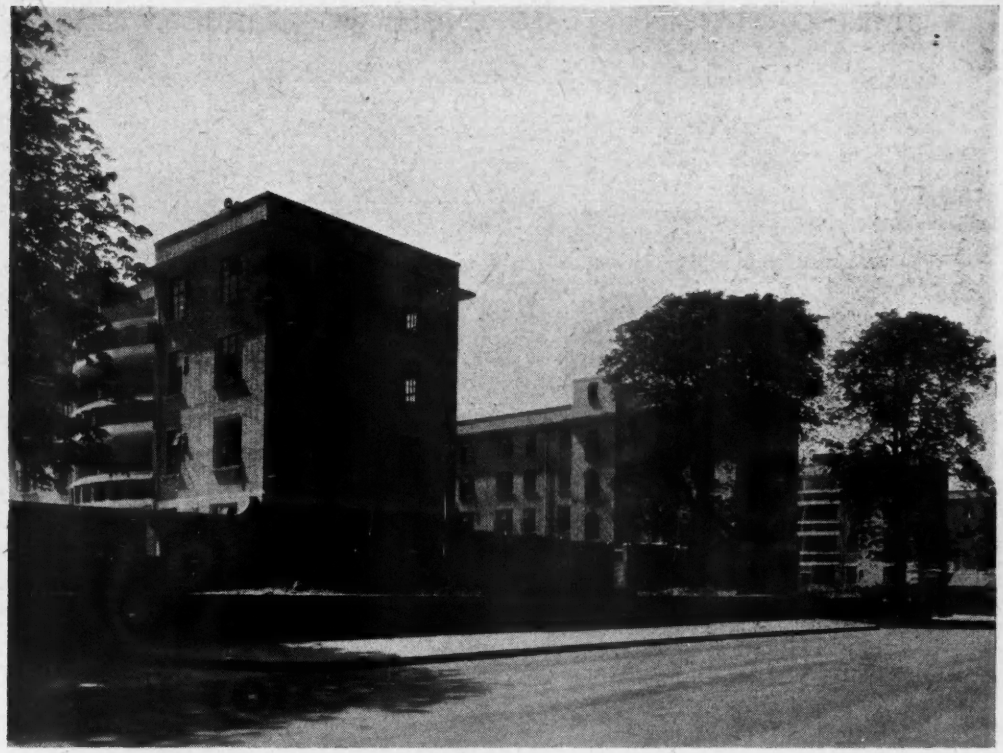
During the war years opportunity was taken to clear the site of a number of old buildings, including "Cherry Orchard," the house from which the estate takes its name. In 1944 the plans for the first instalment of 112 flats were thoroughly revised, to bring them up to a much enhanced standard of design and accommodation. Approval was obtained for their inclusion in the "First Year's Programme," together with the advance preparation of the site by the construction of roads and sewers. This work was carried out by an arrangement with the L.C.C., under which that authority co-ordinated the requirements of several neighbouring boroughs. The contractors for the roads and sewers were allotted a considerable number of German prisoners, and the work, begun in May, 1945, made steady progress.

The lowest tender for the 112 flats, with their external works, was that of Messrs. Gee, Walker & Slater, Ltd., and amounted to £134,816. This firm was given possession of the site in February, 1946, and erection proceeded without interruption except for delays occasioned by the exceptionally severe winter of 1946/47. All but the last few flats are now completed and occupied.

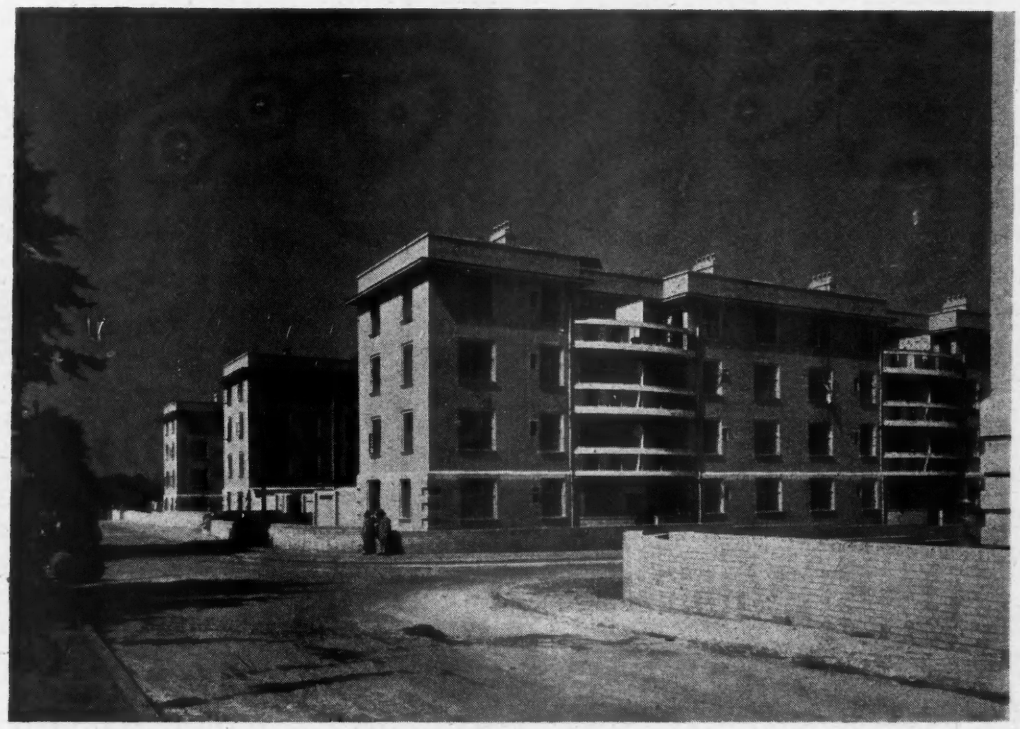
LAYOUT: The area, including half the abutting roads, comprises about four acres, giving a density of 28 flats per acre. As the flats are all of three-bedroomed type, the population density at five persons per flat is 140 per acre.

The pre-war scheme provided for one large block running parallel to Charlton-road, but during revision it was decided to plan the flats in seven detached blocks, each of four storeys, and each comprising 16 flats. By siting the blocks at right angles to Charlton-road, an east and west aspect was obtained for each flat, and a more attractive treatment of the spaces between the blocks became possible. These spaces are planned alternately (a) for access to main entrances, drying grounds, and cycle or pram sheds, and (b) for tenants' own gardens. The screen walls along the Charlton-road frontage were provided for purposes of privacy, and to act as an architectural link-up of the whole scheme.

ACCOMMODATION: Each flat contains a living-room of 165 sq. ft., and bedrooms of 133, 100 and 70 sq. ft., respectively. The kitchen is 12 ft. by 7 ft., and gives



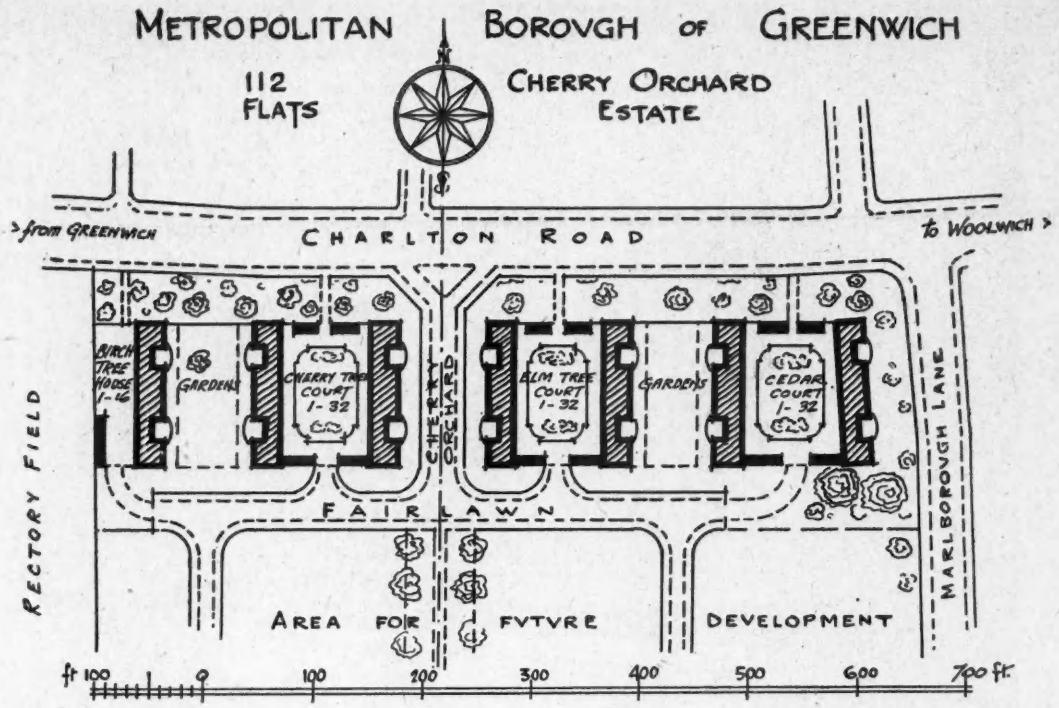
View from Charlton-road.



Another View from Fairlawn.

FLATS ON CHERRY ORCHARD ESTATE, CHARLTON, FOR GREENWICH B.C.

E



access to an enclosed space at ground-floor level, and to a private balcony on the upper floors. The bathroom and w.c. are separate, and each flat has a lock-up fuel store on the landing. External ranges of pram and cycle sheds provide one for each family.

MATERIALS: The cream-coloured bricks used on all elevations are "Uxbridge No. 6 buff facings," and the window and door surrounds have cast-stone dressings of similar tint.

Floors and flat roofs are of reinforced concrete, laid in situ by Caxton Floors, Ltd. The floors are surfaced with wood blocks supplied and laid by Horsley Smith, Ltd., and the roof covering of asphalt was carried out by the Excel Asphalte Co., Ltd. Gates and other iron work were made by Bayliss, Jones and Bayliss, Ltd., and by S. W. Farmer, Ltd., of Lewisham; and the metal windows were supplied by Stelwyn Construction, Ltd.

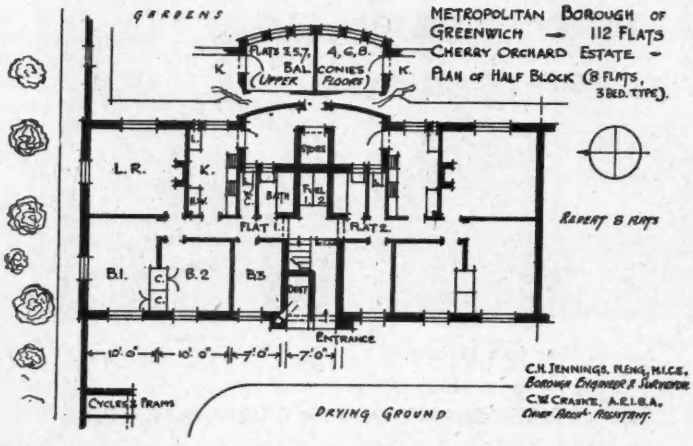
EQUIPMENT: *Heating and Hot Water.*—Each living-room is provided with a solid-fuel burning stove of the "Marathon" type manufactured by Allied Ironfounders, Ltd. This will burn coke or coal, and has an adjustable fire cover which can be lowered to provide all-night burning. A back boiler is incorporated with this stove, supplying hot water to sink, bath and lavatory basin. In summer, hot water can also be obtained by the operation of an immersion heater in each cylinder.

Cooking and Washing.—Four blocks are provided with gas cookers and wash boilers and the remaining three have electrical equivalents.

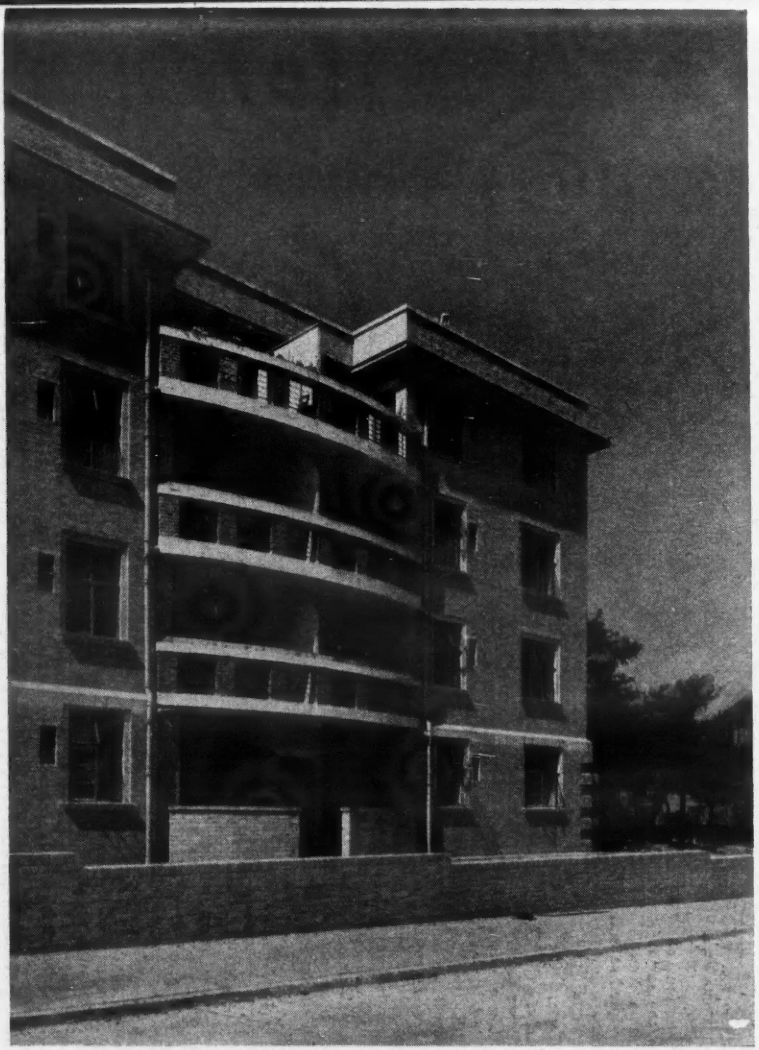
Kitchen Fittings.—These include a ventilated food store, lift-up table, dresser cabinet, airing cupboard, sink with draining-board, and space for refrigerator, if required.

Other items.—Plumbing is by the "one-pipe" system, the wastes all being taken down in an internal pipe shaft. Refuse disposal is by dust shoot, accessible on each landing. Attention has been given to the safeguarding of all pipes and cisterns from freezing.

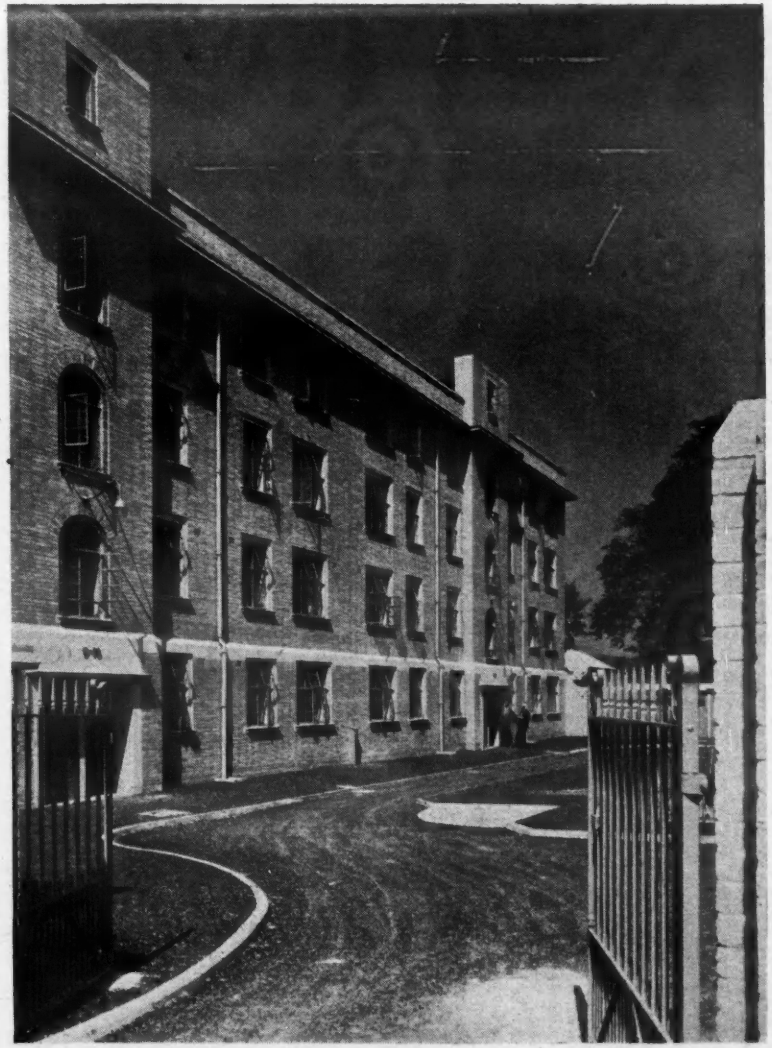
The scheme has been carried out by Mr. C. H. Jennings, M.Eng. (L'pool), M.I.C.E., Borough Engineer and Surveyor, assisted by Mr. C. W. Craske, A.R.I.B.A., Chief Architectural Assistant.



FLATS ON CHERRY ORCHARD ESTATE, CHARLTON, FOR GREENWICH B.C.



Detail View of Balconies.



An Entrance Quadrangle.

FLATS ON THE CHERRY ORCHARD ESTATE, CHARLTON, FOR GREENWICH B.C.

AMERICAN BUILDING AND HOUSING

A VISITOR'S IMPRESSIONS

THE first of the autumn and winter series of lunch-time talks at the Housing Centre was given by Mr. Clive Pascall, A.R.I.B.A., who gave his impressions of a visit to the United States last April, and, in particular, of some of the building and housing schemes he had been able to inspect during a short visit. Mr. Edward Newman presided.

"We returned to this country," said MR. PASCALL, "feeling that, despite the working of our present building restrictions, some form of rationing of materials definitely makes sense under present conditions, and that the American 'free-for-all' methods under the same conditions would certainly not be worth while in this country at the moment."

After describing his impressions of some of the chief cities of the U.S.A., Mr. Pascall spoke of the Dodge plant near Chicago, which he visited and which, he said, was bigger than the famous Willow Run bomber factory. The Dodge main assembly plant covered 89 acres under one roof and employed 90,000 workers on each shift. It was one of the most frightening buildings he had ever seen. It was constructed of a reinforced concrete shell, the reinforced principle being adopted instead of steel alone because of the shortage of that metal in America during the war, when the plant was erected. One barely saw natural lighting at all in the building. The workers arrived in buses and cars, and on leaving their vehicles went down a stairway, through tunnels, and emerged inside the factory, 50 ft. from their machines.

The new Technical Institute building going up at Chicago was another amazing building. It had a steel frame with brick infilling, but it was complicated in its simplicity, in that the architect, to achieve simplicity of line, had to cover up his steelwork with additional steel sheets and cut individual bricks to different sizes.

His impression of American housing was much the same from coast to coast (he flew from New York to San Francisco, and visited several cities in between those places).

Housing Costs.

Statistically, the Americans had as great a housing shortage as we had in this country. There was a tremendous boost shortly after V-J Day for "G.I." housing. A lot of "hot air" was talked about it. In fact, very little had happened, principally because of the high cost of building in America. In April there was still a building licensing system, but most of it came off in June. The restrictions laid down a maximum of 1,500 ft. super per house, but there was no limitation of the specification or of the cost. The result, on the whole, was "pretty chaotic." Outside San Francisco anything outside the 1,500 ft. super limit got an additional licence to build, say, a cellar, and the cellar would turn out to be a garage.

Speaking of costs, Mr. Pascall said that a house, exclusive of landscaping and other things outside the walls, would cost as much as $20,000 for 1,500 ft. super. In such a house the bath would not be of gold, but it would be of marble; there would be push-button radio everywhere, and there would be built-in electrical barbecues (roasting ovens) and switch-gear specially made for that house alone. Some houses were fitted up so that the driver of an incoming car, fitted with short-wave radio, could with one button open the gate, with the second switch on an outside light, and with the third open the garage doors without getting out of the car.

There were 850 ft. super "G.I." houses which were of a comparatively high standard, with a central heating plant and standing on an eighth of an acre. These cost $12,000 each, but it had been calculated that the economic limit of the average "G.I." was around $7,000 dollars, taking into account the "cheap" loans available (4⅞ per cent. was considered a cheap rate of interest in the U.S.A.), gratuity, savings, etc. The answer was, no "G.I." housing. The same thing was happening in regard to general private houses. Building simply stopped because the money ran out. The whole of the work was being done on a "cost-plus" basis. No contractor could tell what the cost of a house was going to be until the timber and other materials were delivered on the site. In other words, it was a "free-for-all" system and everything went to the highest bidder.

One great influence on American house-planning was obviously the universal acceptance of central heating and also the open plan, and not a series of tubes or boxes, as houses were in this country. In the American house the children did not have merely a bedroom, they had a bed-sitting room to themselves, in which they could play, have their friends, and do their homework, because the whole house was warmed.

American houses seemed to be nearly all of timber, which had distinct advantages in some respects. You did not see any of the services on the surface in an American house. All that they needed to do to hide the electric wiring was to bore a hole in the woodwork. On the whole, electric wiring was not in conduit but rubber- or lead-covered. One never saw a piece of plumbing or electrical wiring exposed or any fittings which collected dust and were difficult to clean.

So many of the immediately pre-war American houses and those now going up had a very open character, which was all right for "week-end" houses and looked very attractive, but whether it was so good for the "all-the-year-round" house he rather wondered.

Houses of the extreme lower limit in cost were such as were designed by Carl Koch at Cambridge, Massachusetts. These were so shoddily built as to appear fantastic. They were timber-framed and had a high superficial finish, but when there were two to three feet of snow outside, as there often were in the winter, the occupants, he thought, could not help feeling exposed.

Low-cost Flats.

At Parkchester, near New York, said the lecturer, he saw the housing scheme of the Metropolitan Life Assurance Company, which consisted of blocks of flats of comparatively low cost, suitable for what we termed the "black-coat" worker, and equivalent to modern middle-class flats in this country. For rentals almost equivalent to those one got hot water, electricity and gas. On the spot were branches of the "down-town" departmental stores, so that one could buy the same article at the same price as one could by travelling to New York.

Some minimum-cost houses he had seen in New York were built with every known subsidy—Federal, State and City, with private contributions as well. Rentals varied according to a kind of means test. The houses were as if someone had taken one of our average working-class housing schemes and stripped it completely. The American "closet" had become a cupboard without a door, the tenant being encouraged to hang a piece of material over it. There was no larder, nothing was vertical, nothing level, nothing plumb. The metal windows used were rejects from the cheapest mass-production manufacturers, and the handles, fasteners and catches were of the thinnest gauge metal stampings (probably about 18-gauge). He thought the maintenance costs of such a scheme would be terrific.

The lecturer was of the opinion that the American building industry was in absolute chaos. Their extravagance with materials was amazing. They thought they had a shortage of timber, but it was really only a shortage of seasoned timber. The Americans carried the use of machinery and machine tools in building to extremes. Some of the tools and other equipment were used in a very uneconomical manner, which must be reflected in building costs.

Speaking of the restrictions placed on the building industry by the American trade unions, the lecturer said that for every job costing more than about £1,500 to £2,000 one had to apply to the union, which acted as labour exchange and said how many men one could employ, and if you sacked any you would not be able to replace them. Painters' unions banned the use of brushes above a certain size.

After seeing American building, said the lecturer, he came back determined to endeavour to insist on a high standard of finish. It was difficult after the necessary lowering of standards during the war, but we were gradually returning to it.

CORRESPONDENCE

[Whilst we are glad to publish letters on professional and other matters of interest to our readers, it must be understood that we do not necessarily endorse the remarks of correspondents, who will oblige us if they will express their views as briefly as possible.]

The A.B.S. Tombola.

TO THE EDITOR OF *The Builder*.

SIR,—Need for funds for the Architects' Benevolent Society is very great, and amongst our other efforts to secure an increase in our income to provide money to meet current and future needs we are organising a Tombola at Olympia during the forthcoming Building Exhibition.

This Tombola is made possible by the kindness of Mr. H. Greville Montgomery, who is, as in pre-war years, most generously providing a stand and all facilities. The Tombola will be a prize draw and every ticket will win a prize. We are therefore appealing for gifts for prizes, such as small sculptures, china, glass and items of household equipment, pictures, either framed or mounted, books on architecture and related subjects.

The A.B.S. urgently asks for gifts of this kind to be sent as soon as possible and before the first week in November to the Society's offices at 66, Portland-place, London, W.1. This is a great and easy opportunity of helping the A.B.S.

Tickets for the Tombola, price one guinea, can be obtained now from the Secretary of the A.B.S., or at the Building Exhibition from the A.B.S. Stand.

H. S. GOODHART-RENDEL,
Hon. Treasurer, Architects' Benevolent Society.
66, Portland-place, London, W.1.

The Depressed Profession "Architecture"

To the Editor of *The Builder*.

Sir,—While the majority of architects in private practice have insufficient work to keep themselves and their staff working at 100 per cent. efficiency, all the technical journals week after week are full of advertisements for architects and architectural assistants to swell the staffs of the various Ministries, County and Local Authorities. Surely through the Press, public opinion, or the R.I.B.A., pressure could be brought on the various Government Departments and authorities to insist upon much more use being made of architects in private practice and their organisation, and thus save the criminal waste of highly skilled man-power which is occurring.

Soon all architects in private practice will be forced to become salaried architects, which is certainly not in the best interests of the profession.

A. L. Abbott, F.R.I.B.A.
Westminster, S.W.1.

Ballast: Is There a "Racket"?

To the Editor of *The Builder*.

Sir,—The letter from "Private Enterprise Builders" in your issue of September 19 raises a very important point. The figures which your correspondents give to illustrate how, in effect, they have been overcharged for short measure when ordering "all-in" ballast indicate a state of affairs which is palpably wrong.

Perhaps the most striking point which is revealed by the letter, however, is the fact that your correspondents evidently do not know the ready answer to their difficulty, which is to order material to British Standard 882. If they do this the buyer is fully protected against the practice of "sandwich loading," of which your correspondents complain. A recent amendment to the specifications for "all-in" and graded aggregates in this standard reads as follows:

> "The various sizes of particles of which an aggregate is composed shall be uniformly distributed throughout the mass *before loading*." (The italics are mine.)

Here, surely, is the complete answer. So long as builders and others are prepared to accept the sort of treatment and material of which "Private Enterprise Builders" complain, so long will the day be delayed when producers generally are compelled to supply properly standardised materials.

British Standard 882 and its accompanying standards (1198, 1199, 1200 and 1201) cover the whole range of concrete aggregates and building sands. It is up to the buyer to make full use of these standards and so safeguard himself both as to quantity and quality.

This matter is likely to become of increasing urgency if and when a further shortage of cement occurs and the utmost economy in its use must be exercised. Only first-class aggregates will then be acceptable if concrete of the requisite strength is to be produced.

In conclusion, I would remind buyers of British standard material that they can, and should, demand a certificate of compliance, as provided for in the standard, and so obtain the producer's warranty for his product.

B. L. Morton,
Twickenham Gravel Co.
Blackwater, Surrey.

BOOK RECEIVED

Hepplewhite Furniture and Designs. (London: John Tiranti, Ltd.) Price 7s. 6d.

METHOD STUDY APPLIED TO BRICKLAYING IN HOLLAND*

By L. G. MAYCOCK, F.I.I.Tech., M.Inst.Econ.E., of the Division of the Chief Scientific Adviser, Ministry of Works

How Studies are Taken and Standards Assessed.

Method study is used very extensively in Holland in connection with the calculation of brickwork costs. The observation has been undertaken by a firm of consulting industrialists, the Advisory Bureau of B.W. Berenschot Engineer, working in collaboration with the Bureau for Affairs relating to Building Economics in the State Reconstruction Service. The planning of the methods of collating the data was undertaken by the consultants, and the collation was done by the Bureau under their direction.

Observers are known in Holland as time and motion study analysts, and their technique follows very closely the methods used in the method study section of the Chief Scientific Adviser's division.

Rating for effective effort and speed is done in the same way as by the method study section, although different rating symbols are used. These, together with British approximate equivalents, are given below:—

Dutch rating.		*Method Study Section rating.*
12	Excellent	90/100
11	Very good	75/85
10	Good	60
9	Fairly good	50/55
8	Sufficient	45/50
7	Slow	40
6	Bad	30

Each operation is observed, and the usual breakdown into small elements of work is made. Each element is then timed, and rated for speed and effective effort. As soon as sufficient readings and ratings have been collected, the average or normal value is selected, discarding any abnormal recordings. For example, a selected time for an element of 5 seconds at a rating of 11 would be reduced to standard by calculating $(5 \times 11)/10 = 5.5$ seconds. A considerable number of studies are made before assessing the selected value for each operation. To the standard value for each element is added an allowance of 20 per cent. for rest. This is slightly lower than the figure usually used in the method study section, which is usually 25 per cent. for bricklaying operations. The total of final values for each element will provide the standard value for the complete operation. With only five analysts to cover the whole of Holland, it was necessary to synthesise to a great extent. Having established a standard value for each type of brickwork operation, careful checking of the numbers and types of bricks and brickwork, when given the appropriate standard, quickly produced a standard value for any type of building for which standards were required. A typical standard set up, based on time study observations, is attached (Appendices A and B).

Allowances.

The assessment of the standard time for performing an operation is only a very small, although absolutely essential, part of building up reasonable estimates for costs and labour productivity. To obtain good inducements to work, based on normal conditions, it must be accepted that in Holland, as perhaps to a more marked degree in England, there is a large margin between ideal conditions and reality. In order to include reasonable allowances to add to the standard as set by method studies, many experiments were undertaken in Holland, mainly in comparing standards with actual performances and in analysing all time spent under its appropriate heading. It was found, from these experiments, that the allowances or margin applicable to present-day bricklaying is considered to be 30 to 35 per cent. It is interesting, at this point, to state that in 1936, when the political and social position was the deciding factor, production in terms of man-hours per 1,000 bricks (all work) was 6.8, compared with the standard set of 6.3 man-hours per 1,000. In 1946, owing to lack of materials, high absenteeism and other reasons, man-hours were approximately 8.50 hours per 1,000.

This allowance of 30 to 35 per cent. is used intelligently, according to the type of organisation for which estimates are to be prepared, also to the location of the work, bearing in mind acute transportation problems and other factors. It has been stated that performance in rural districts is less than that of towns, although it would be difficult to prove in every case.

Tables showing the breakdown of time spent on three different types of work, having different degrees of organisation and labour, are given below. The work on Site A is cavity walling, on Site B 9-in. party walling, and on Site C foundation work.

TABLE I.—PRODUCTIVE TIME

Operation.	*Percentage of total time.*		
	Site A	*Site B*	*Site C*
1. Bricklaying	56.0	72.1	42.5
2. Mortar mixing ..	7.2	8.8	10.4
3. Stretching line ..	9.2	2.5	5.9
4. Cement slurry of inside cavity	3.7	—	8.2
Total percentage productive time	76.1	83.4	67.0

TABLE II—NON-PRODUCTIVE TIME.

Description of non-productive time	*Percentage of total time*		
	Site A	*Site B*	*Site C*
1. Preparation and clean up before and after..	7.5	3.2	18.0
2. Waiting and conversation	8.0	7.6	6.8
3. Fetching materials ..	2.4	3.4	0.8
4. Miscellaneous ..	6.0	2.4	2.1
5. Waiting for Hod Men	—	—	5.3
Total percentage non-productive time ..	23.9	16.6	33.0

Many other experiments, aimed at producing a reasonable allowance or margin, were made. Appendix C gives figures representing the comparison between the actuals and standards. It will be noticed that the margins allowed in various jobs varied considerably. For job WMV, begun in 1936, the margin was only 8 per cent.; for job AKM, of 1942, 22 per cent.; and for job MDB, 1941-42, 37 per cent. The job WMV was very strongly influenced by the then very bad economic conditions, expressed in the low wage rates. The high

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margin in job MDB was the result of the German occupation, while on job AKM, of 1942, the situation had to a great degree calmed down. Thus, these margins reflect the economic conditions under which building construction was carried out.

In this way a good idea of general production is obtained, which is of the utmost value in estimating. The times given are for each principal part of the building, and are made up of times for straightforward brickwork.

Operations for which no time standards had been calculated are ornamental work, special door and window frame connections, etc., and it was necessary to estimate the percentage additions. These are of interest in that it is possible to determine the influence of these factors on the work. The total addition of percentages allowed in calculating the final standards will also make it possible to obviate difficulties in designs requiring excessive times.

Comparisons between actuals and Standards.

A number of sites were visited and information regarding actual outputs varied considerably from site to site. This was to be expected as a number of variations such as type of bond, quality of finished work and type of labour employed tend to make it almost impossible to obtain any outputs which could be classified as standard. However, on averaging results from all these sites, it would appear that the following figures present a fairly accurate picture of the rates of bricklaying in Holland.

Outer walls	800/1,000 per day.
Inner walls	2,000/3,000 per day.
Brickwork of all types	1,250 per day

A day consists of ten hours and includes an official break of half an hour at 9.0 a.m. and one hour for lunch, thus the available productive hours are 8½. The actual standards have been checked recently, and it has been found that excluding the allowance of 30 per cent. to 35 per cent., previously mentioned, the standard is the same to-day as it was in 1936. This indicates that no change in method has taken place.

Comparison in rate of finished work.

The following table is a comparison between the size of the Dutch and English bricks and the area which they will cover :—

Brick	Size (in.)	Volume (cu. in.)	Weight (lb.)	Area covered by stretcher (sq. in.)	Bricks per sq. yd. with ½ in. joints
Dutch	8 × 3½ × 1½	56	4.1	15	70
English	8¼ × 4⅛ × 2½	96	7	23	48

As English bricks are frequently larger than that shown, it may be taken that the area covered by a Dutch "stretcher" covers approximately two-thirds of that covered by the English "stretcher," i.e., it requires 50 per cent. more Dutch bricks to cover the same area. It seems probable in view of the method of laying the bricks in Holland, without "buttering," that the thickness of the joint is less than ⅜ in., which would result in a greater number of bricks per square yard than that shown above.

Dutch bricklayers do not point the brickwork while laying the bricks, this being treated as a separate operation. The pointing operation was not studied in Holland, but it appears that the additional time is equivalent to half that of the bricklayer. This is to some extent confirmed by the following analysis of the pointing operation in this country.

Output of 4½ in. rough brickwork	=57 bricks per hr.
	=0.0176 hr. per brick
	=0.85 hr. per sq. yd.
Output on brickwork pointed as separate operation	=2.5 sq. yd. per hr.
	=0.4 hr. per sq. yd.
Ratio of pointing to laying 0.4/0.85	=47%
Output on 4½ in. brickwork pointed one side	=47 bricks per hr.
	=0.0213 hr. per brick
	=1.02 hr. per sq. yd.
Ratio of pointing to brickwork when carried out at the same time 0.17/0.85	=20%

Comparing the two methods :—

(*a*) 4½ in. brickwork pointed one side as work proceeds	=1.02 hr. per yd.
(*b*) Laying 4½ in. rough brickwork	=0.85 hr. per yd.
Plus pointing one side as separate operation	=0.40 hr. per yd.
Therefore laying and pointing as separate operation	=1.25 hr. per yd.

Therefore pointing as the work proceeds takes (1.02/1.25) × 100% of the time required for both operations, = 82%, or a saving of 18% on the Dutch method.

This means that the English method is 22 per cent. more efficient than the Dutch (These figures will not, of course, apply to thicker brickwork. The thicker the work the lower will be the ratio in time of pointing to bricklaying, providing pointing applies to one side only.)

The Dutch output in relation to the standards set by their time and motion study observers is shown in the following table :—

Type of brickwork	Thickness	Standard Dutch output		Actual Dutch output		Rating of output
		Per 8½ hr. day	Per hour	Per 8½ hr. day	Per hour	
Outer walls	11 in. cavity	1,000	116	800/1,000	106	55
Inner walls	9 in. solid	1,950	229	2,000/3,000	294	77
All types	—	1,040	124	1,250	148	71

The large difference between the standard output for outer and inner walls can be explained by the fact that in Holland the inner walling is of a much lower standard of finish than the outer walling, and, indeed, of much lower standard than rough brickwork in this country.

As a commentary on this in Great Britain, output under the Bonus Incentive Scheme has been found to be 74 bricks per hour on 9-in. rough brickwork, which is 30 per cent. greater than that of 57 bricks laid on 11-in. cavity work.

It is claimed in Holland that the output on 9-in. walling is 294 bricks per hour, or nearly three times the output of 106 bricks per hour on 11-in. cavity work.

The difference in performance rating of actual output in comparison with standard—*i.e.*, 55 rating on outer walling and 77 rating on inner walling, is not so clear. It might be that when quality is a secondary consideration the men become more interested in speed and work at a higher rating. This would probably be particularly true where a bonus scheme was in operation.

Comparing the actual Dutch output with the British equivalent, we get the following :—

Type of brickwork	Dutch actual output per hour. (a) Dutch bricks (Actual).	(b) Equivalent British (2/3 a).	(c) Allowance for pointing one side (2/3 b).	British output per hour pointed one side.
11 in. cavity outer walls	106	71	47	47
9 in. inner walls	294	196	131	63
All types	148	98	66	50–60

The final comparison between the Dutch and English output is not a true one. English figures do not take account of the indirectly productive and non-productive time, while Dutch figures do not take into account the items which the English figures include—*e.g.*, setting up profiles and a number of labourers' and extra work, such as building in windows, closing cavities, etc. Further, the resulting English wall is thicker than the Dutch (English 8¾ in., Dutch 8 in.), and consequently more weight has to be moved for the equivalent area of wall.

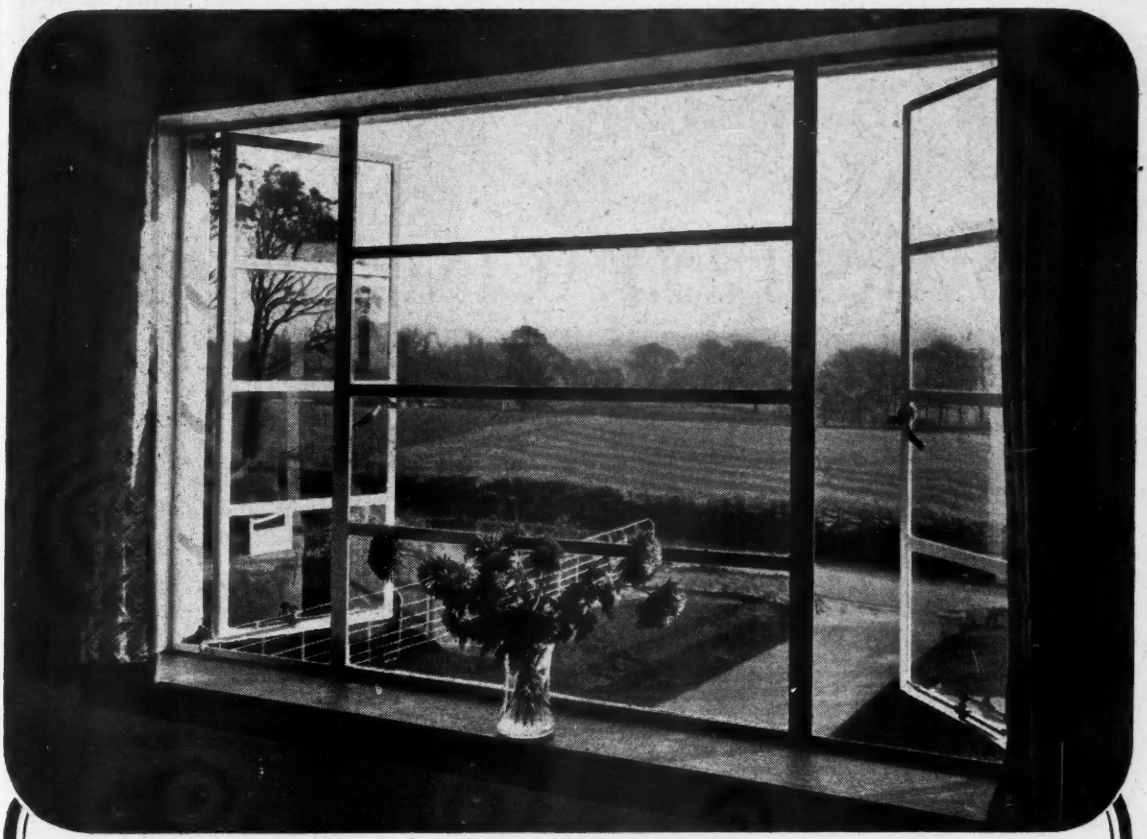
Description of Methods Used.

The method of laying bricks in Holland differs from that commonly used in England. Breaking the operation down into small elements, the general description of the operations is as follows :—

1. Turn from wall to the mortar and bricks.
2. Take mortar on trowel with right hand and brick with left hand.
3. Turn back to the wall.
4. Spread mortar.
5. Place brick in mortar.
6. Clean mortar from joints.

It will be seen from the above that two elements at least are missing from the sequence employed by our own operators—that is, the brick is not "buttered," and no tapping is done. The brick is slid into the mortar with slight pressure and the mortar flows up the end of the brick. The bricks are laid to a line stretched between profiles and no tapping is necessary; in any case, the amount of tapping performed by a bricklayer is largely a personal variant, and with the advent of an effective incentive would no doubt be reduced to a minimum.

The use of profiles eliminates the excessive plumbing and line moving so noticeable in bricklaying in this country. The trowel used is light and differently shaped from the English one—in fact, at times it is also used as a means of picking up



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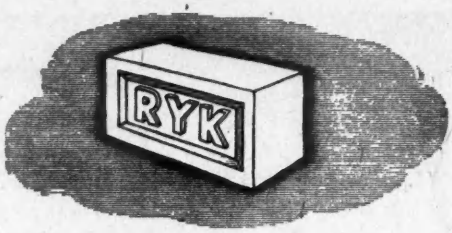

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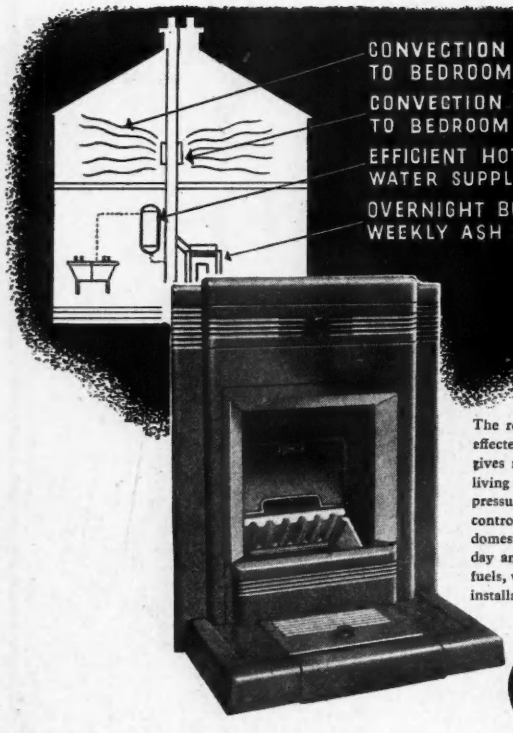
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bricks, when laying inner walls, where sufficient mortar for 4 or 5 bricks is laid. A sketch (reproduced) illustrates the types of racks for bricks and positions of materials relative to the work. This positioning is of the utmost importance, as intelligent positioning saves the very considerable number of "small waits" usually experienced by the bricklayer. Bricks are delivered to the bricklayer in loads of 68. The mortar is contained in a large tub. The mix is dry and is mixed to the right consistency by the bricklayer, who adds water from a bucket as and when required. This, again, is of significance in maintaining a high rate of production. It has been observed that bricklayers are usually quite expert in gearing down their rate of production to coincide with the intermittent supply of materials.

If the principles of the conveyor system of production could be adopted in bricklaying, there would always be more bricks than men to lay them. In Holland there is something approaching this highly desirable condition. There is a vast difference between 68 bricks and the normal 12 to 20 usually carried by hod. In addition, the spot board requires constant replenishing, whereas in Holland the contents of the large tub will last the bricklayer for a reasonable time. The advent of mechanical means of transporting and delivering bricks and mortar in this country is a move in the same direction.

Pointing is carried out as an entirely separate operation, and is usually the work of the pointer. An approximate estimate of the ratio of pointing to bricklaying is 1 : 2. On the information available it appears that the method of pointing the brickwork as a separate operation is not as efficient as the English method, although it seems probable that the method used in Holland of sliding the bricks along the wall in order to fill the vertical joint with compo renders the pointing later essential in order to provide a good job.

The weight and size of the brick usually used is important, although, in our opinion, too much consideration can be given to the question of fatigue of bricklaying. After all, the weight handled is hardly ever continuous, and it can reasonably be assumed that any fatigue experienced is due to the abnormal body positions adopted at various stages of the construction. Taking weight for weight, the Dutch brick is approximately 4 lb.-5 lb. and our own is 7 lb. The comparisons in size are :

Dutch	8 in. × 3⅜ in. × 1⅞ in.
English	8¾ in. × 4⅛ in. × 2⅛ in.

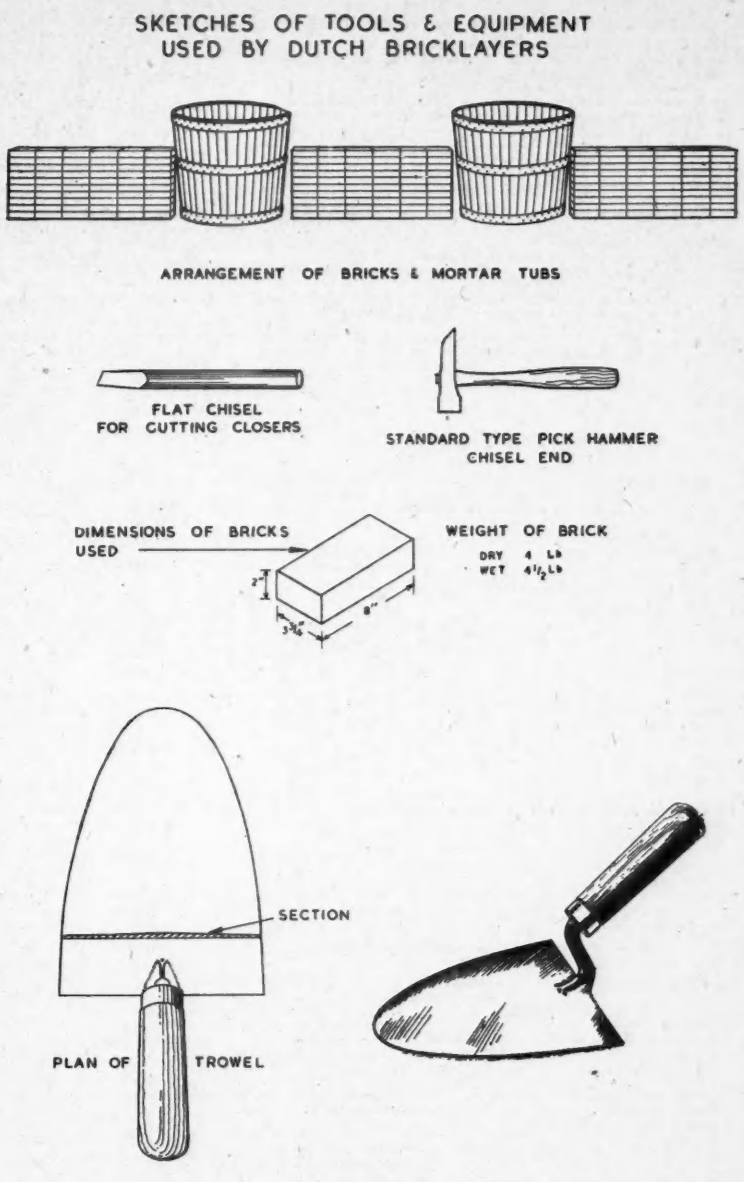
The Use Already Made of the Standards.

It is important to record that the collected standards have already been used for various purposes.

(1) *Estimating.*—The Bureau for Affairs relating to Building Economics is entrusted with the inspection of architectural estimates for dwellings to be erected under the housing laws. Various faulty calculations were corrected by means of the standards supplied to the Bureau.

(2) *Judging the general rate of production.*—In the cases where disputes arose between employers and employees the standards were taken as an average or yard-stick in order to come to a decision regarding the rate of production in dispute. It was shown convincingly that the rate in dispute was far beneath the standard, and this was finally recognised by the employees.

(3) *Trainees.*—Standards of different operations were supplied to the National Technical Education Service, and from this data it was possible to indicate which method of bricklaying led in practice to the best results.



APPENDIX A.

TYPICAL TIME STUDY SHEET.

Plain brickwork :—

		Min.
Description.	(*a*) Turning from wall to mortar and bricks	0.018
	(*b*) Taking mortar with right hand and brick with left	0.028
	(*c*) Turning back to the wall	0.018
	(*d*) Spreading mortar	0.020
	(*e*) Placing brick in mortar	0.030
	(*f*) Clean mortar from joints	0.020
		0.134
	This time is valid only for bricks *not* laid against a window or door frame.	
	Height of wall, 0–1.50 metres. Pick and dip method.	
Beginning of operation	Bricklayer takes hand from brick.	
Ending of operation	As beginning.	
Basic time	Time per brick, 0.134 minutes, plus 15 per cent. for mortar making and 5 per cent. for cleaning off = 1.20 × 0.134 = 0.160 min.	
Factors influencing length of time.	For walls above 1.50 metres the time per brick is up to 25 per cent. higher.	
Materials and tools.	Dimensions of brick 22 cm. × 11 cm. × 6.25 cm. (8.65 in. × 4.33 in. × 2.46 in.)	
	Weight approx 1.5 kg. (3¼ lb.).	
	Tub with mortar.	
	Trowel. (See figure.)	
	Line.	

APPENDIX B.—TYPICAL TIME STUDY SET-UP SHEET

Plain brickwork—½ brick thickness, ½ brick bond.
Area of brick: 0.22 m. × 0.0625 m. = 0.01375 sq. m.
Net time for laying one brick = 0.160 min.

Operation details.	*Min. per sq. m.*
1. Laying one brick per sq. m. = 1/0.01375 × 16/100 min.	11.62
2. Putting up line, per man per occasion = 0.25 min. Length of line 15 m.: 16 courses per m. Thus for 15 sq.m. and 3 bricklayers = 3 × 16 × 0.25 = 12 min. = Per sq. m. brickwork 1/15 × 12 min. =	0.80
3. Finishing stretcher joints per sq. m. 16 × 0.036 =	0.58
4. Finishing short joints per sq. m. 73 × 0.01 =	0.73
5. Cleaning with brush =	0.55
6. Going to another job, per man per occasion = 5 min. Per height of brickwork 1.50 m., average length of brickwork 15 m. For 1.50 × 15 = 22.5 sq. m. of brickwork 3 bricklayers require 3 × 5 = 15 min. Per square metre of brickwork 1/22.5 × 15 min. =	0.67
1st sub. total	14.95
20% irregularities	2.99
2nd sub. total	17.94
20% fatigue	3.59
3rd sub. total	21.53
3% personal needs	0.65
Grand total	22.18

(*a*) Standard rate 22.18 man-min. per sq. m. 0.37 man-hr./sq. m.
(*b*) Standard rate per 1,000 bricks 0.37 × 13.75 5.07 man-hr.

Conclusions.

(1) There is, in Holland, a more marked difference between the rate of production of facing brickwork and of common brickwork than is the case in Great Britain.

(2) This is due to the fact that the pointing of facing work in Holland is nearly always carried out as a separate operation, whereas it has become common, in Britain, for the bricklayer to leave a finished facing joint as he comes up the wall. The backing brickwork, in Holland, especially where it will be covered up, is left rougher than is normal in Great Britain: in addition, the vertical joints are filled by shoving the bricks along the mortar bed.

(3) The latter practice does affect the strength of brickwork, and tests carried out at the U.S. Bureau of Standards showed that the furrowing of the mortar bed and forming the vertical joint by "shoving" are factors in bricklaying which have a marked effect in reducing the strength of brickwork.

(4) Nevertheless, there are very many uses of brickwork where strength is of secondary importance, and the high rates of laying achieved by Dutch bricklayers, for common brickwork, are interesting and the methods used will repay study in this country.

(5) The finished facing brickwork in Holland is uniformly excellent and is, of course, world-renowned. It is interesting to note that the rate of production is very similar to that of English brickwork, when due allowance has been made for all the different variable factors involved.

APPENDIX C

Part of Building.	*WMV Job*, 1936. *Types A and C.* Bricks per pair.	Time (man-hours).	Time (man-hours per 1,000 bricks).	*Type B.* Bricks per pair.	Time (man-hours).	Time (man-hours per 1,000 bricks).	*AKM Job*, 1941/2. Bricks per pair.	Time (man-hours).	Time (man-hours per 1,000 bricks).	*MDB Job*, 1941/2. Bricks per pair.	Time (man-hours).	Time (man-hours per 1,000 bricks).
Foundation	855	4.37	5.13	549	2.52	4.59	5,690	24.99	4.39	2,031	9.25	4.55
Gable	6,835	58.20	8.50	8,030	53.50	6.65	7,440	50.71	6.82	8,208	63.40	7.72
Interior brickwork	10,670	50.99	4.75	5,890	23.77	4.04	10,403	37.85	3.64	6,619	25.95	3.92
Breeze blocks	2,324	17.94	7.72	1,625	12.43	7.65	591	4.62	7.80	2,188	16.70	7.64
Chimney — outer roof	1,567	10.96	7.00	1,053	7.03	6.68	253	1.54	6.11	353	2.18	6.20
Chimney — inner roof	—	—	—	—	—	—	516	4.45	8.63	1,085	6.69	6.17
Estimated totals	22,251	142.46	6.40	17,147	99.25	5.78	24,893	124.17	5.00	20,484	124.17	6.07
Average man-hours per 1,000 bricks (actual)	—	—	6.80	—	—	6.28	—	—	6.10	—	—	8.30
Per cent. variation from estimated time	—	—	+ 8 per cent.	—		+8 per cent.	—	—	+ 22 per cent.	—	—	+ 37 per cent.

APPENDIX D.—Details of Method Studies taken in Holland.

Details of site—materials—operation, etc.	*Description of Element.*	*Std. time in minutes per brick at 60 rating.*
Site: Carnisse Buurt, Rotterdam Building: 4-storey flats Operation: Laying bricks to 8 in outer wall to line. Filling in between windows, 3 ft. from scaffold. Includes cutting and laying to reveals and insets. Bond: Flemish Joint: Flush jointing Quality: Good. Payment: Straight piecework.	1. Procure and spread compo, picking up brick in same operation. 2. Lay and bed bricks to mortar, including reveals and insets to party wall 3. Cut bricks for reveals as required 4. Mix mortar as required 5. Adjust line to marked course on profile 6. Clean off both sides Total = 270 bricks per hr. at 60 rating. Actual performance in 19 min. = 126 bricks = 89 rating.	0.051 0.116 0.005 0.017 0.011 0.023 0.223
Site: Hilversum. Building: Semi-detached dwelling. Operation: Laying bricks to outer leaf to line to 11 in. cavity wall. Filling in to open wall, 3 ft. 6 in. from ground. Bond: Stretcher. Joint: Flush jointing. Quality: Very good. Payment: Straight piecework.	1. Procure compo from tub and pick up brick, spread compo, lay brick and clean off 2. Adjust line to mark on profile 3. Mixing mortar as required Total = 298 bricks per hr. at 60 rating. Actual performance in 12 min. = 97 bricks = 99 rating.	0.162 0.032 0.010 0.204
Site: Carnisse Buurt, Rotterdam. Building: 4-storey flats. Operation: Laying bricks to 8 in. party wall. Filling in panel to open wall, 6 in. from ground. Bond: English. Joint: Flush jointing. Quality: Very poor. Payment: Straight piecework.	1. Procure compo from tub and spread to wall 2. Procure bricks and lay to line, every 2 courses 3. Adjust line to mark on profile 4. Clean off where necessary 5. Cut bricks for insets as necessary 6. Mix mortar as required Total = 423 bricks per hr. at 60 rating. Actual performance in 15 min. = 156 bricks = 89 rating.	0.042 0.073 0.006 0.007 0.004 0.010 0.142
Site: S'Gravenzande, The Hague. Building: Shops. Operation: Laying bricks to 8 in. party wall. Filling into open walls 6 in. from ground. Bond: English. Joint: Flush jointing. Quality: Very good. Payment: Straight piecework.	1. Procure compo from tub and spread to wall 2. Procure bricks and lay to line 3. Mix mortar as required 4. Adjust line to mark on profile, every course 5. Clean off both sides as necessary Total = 330 bricks per hr. at 60 rating. Actual performance in 8 min. = 63 bricks = 86 rating.	0.046 0.096 0.018 0.014 0.008 0.182

OBITUARY

Major Victor Lefebure, O.B.E., B.Sc., Chevalier Legion d'Honneur.

A friend writes: In the recent passing of Victor Lefebure, following an operation, the building industry, and in particular the B.I.N.C., has lost a distinguished and most faithful member. He was a man of dynamic personality with an ability for incisive thinking and mental effort which never detracted from the charm of his character and bearing. It was perhaps this somewhat rare characteristic in a man of genius and practical ability which gave him such a singular place among his contemporaries. He was a striking example of the combination of a man being a deep reader and a profound thinker and capable of sustained practical action. His thoughts and actions were, moreover, always most precisely balanced. An intimate dinner with Victor Lefebure was an evening of scintillating pleasure—however challenging his conceptions of facts and affairs may have been. He was the kindest of iconoclasts but a real and most perceptive

one; few assertions passed without a challenge, and his powers of appraisement were as keen as his wit and sense of enjoyment and judgment. He showed at times a degree of humour which must have been a great asset to him in his life's work. On subjects of interest he was that *rara avis*, a good listener.

Victor Lefebure in his early and University days distinguished himself in both cricket and football. He had a distinguished career at London University, where he specialised in chemistry and took a high degree, and so entered upon his life's work as a scientist. He served through the 1914-18 war, in which he made a special study of chemical warfare and subsequently was appointed adviser on chemical questions to the British Peace Delegation in Paris. As a result of his experiences he published a somewhat controversial book on gas warfare which he called "The Riddle of the Rhine." The book throws much light on the mutual dangers of this form of warfare.

Following that war he travelled extensively through India and North and South America on various official and commercial investigations and inquiries.

It is, however, with respect to his work on the B.I.N.C. that the writer is able to say how much he will be missed in that somewhat narrow but not uninfluential circle, in which he made many friends and not a few admirers.

His painstaking efforts on behalf of practical research into the work of the materials and problems of the building industry will long be remembered with gratitude, and with much inspiration, by his colleagues. His approach to this side of his interests was marked by a democracy of procedure more than usually rare in this field of activity. In all his dealings in life he was essentially the intelligent but humble democrat. Bureaucracy was to him the cancer of social life. It was because of this quality that he was able to make such a distinguished contribution to both the work and deliberations of B.I.N.C. throughout his association with that body. He was intensely interested in the objects of the Council, as he was in all the many efforts for scientific progress.

In the work of his latter years with the I.C.I., to whom he was attached for advisory purposes at the time of his last illness, and in his independent industrial work, among which was that of adviser to the French Government, and in his intense interest in the scientific aspect of building, he brought to bear a fund of experience and capacity which was always most willingly placed at the disposal of his colleagues, among whom he had become recognised as a leader in his subject.

As Chairman of the Research Committee of the B.I.N.C. he did work which will long be remembered; its influence will continue to expand. His work on cements, plasters, and his earlier work on plastics, was immense in its practical effect on the range and scope of adapted building materials. His early work in this respect was the progenitor of much of their present-day application.

Victor Lefebure died a much-loved man among his friends and colleagues, some at least of whom are left a little contrite at heart in that they did not perhaps do all they might have done to help a fellow-crusader in a great and worthy crusade. But that he was valued as a friend and that his passing is an intense personal loss there is no doubt.

Mr. G. E. S. Streatfeild, O.B.E., D.S.O.

With regret we record the death of Mr. Granville Edward Stewart Streatfeild, O.B.E., D.S.O., F.R.I.B.A., of Cottage-on-the-Hill, Westerham, Kent. Mr. Streatfeild was a member of the London firm of Streatfeild and Atwell.

Mr. Victor D. Horsburgh, F.R.I.B.A.

We regret to record the death in Canada, in his 81st year, of Mr. Victor D. Horsburgh, F.R.I.B.A.

A son of the late John Horsburgh, of Edinburgh, he was apprenticed to the late Sir Rowand Anderson, LL.D., and later took part in the building of the M'Ewan Hall, working on a large-scale section of the roof.

Appointed architect to the Dominion Realty Co., Ltd., Canada, in 1910, he designed and supervised the erection of many of their buildings throughout the country. In 1926 he was appointed Secretary for Canada of the Royal Institute of British Architects. He won the R.I.B.A. Essay Medal, 1907.

LONDON ASSOCIATION OF MASTER STONE MASONS

APPRENTICESHIP EXAMINATION

THE London Association of Master Stone Masons has this year revived its pre-war practice of holding an examination in stone masonry, to foster keenness on the part of apprentices, which only the competitive atmosphere of a practical test of knowledge and ability can inspire. The examination was held on Saturday, September 13, at the works of the South Western Stone Co., Ltd., Thessaly-road, Battersea, S.W.8. Forty-one boys took part in the examination, and showed great enthusiasm for their task and pride in their craftsmanship. The work was judged by Mr. C. A. Linge, Mr. H. J. Taylor, and Mr. H. Tucker.

On Tuesday, September 16, the boys were taken to the quarries of the Bath and Portland Stone Firms, Ltd., and the South Western Stone Co., Ltd., at Portland, who gave them an enjoyable day.

The official prize-giving was held at the Offices of the London Master Builders' Association, 47, Bedford-square, W.C.1, on Monday, September 22. The Worshipful Company of Masons made a substantial contribution towards the cost of prizes, and the prize-giving was performed by Mr. Phillips, the Master of the Company. Mr. Stanley Bysouth, President of the London Association of Master Stone Masons, occupied the chair, and the ceremony was attended by the officers of the Worshipful Company of Masons, the president and officers of the London Master Builders' Association, the president of the British Stone Federation, and the London District Secretary of the Amalgamated Union of Building Trade Workers, together with members of the London Association of Master Stone Masons.

HOUSING PROGRESS IN AUGUST

THE official returns for August (England and Wales, Cmd. 7215; Scotland, Cmd. 7216) show that 11,259 permanent houses were completed in that month as compared with 12,426 in July, bringing the total to 135,272; 3,058 temporary houses were completed in August compared with 4,883 in July, bringing the total to 123,270. Thus at August 3, 258,542 houses of all kinds had been finished.

During the month the total labour force employed on the construction or repair of houses in Great Britain fell from 552,500 to 550,400. There were 249,900 men at work on the construction of permanent houses, and the preparation of sites in August compared with 247,500 in July, and 11,200 on the erection of temporaries in August compared with 11,700 in July. Thus, while the total number of houses completed in August dropped by 2,992 as compared with the previous month, the total labour force increased by 1,900.

Tenders approved for 360,615 houses by August are 7,389 more than by July. Licences issued to private builders, at 84,943, show only a fractional increase over the aggregate at July of 83,163.

The following figures show a comparison for materials production :—

	July	*August*
Cement (1000 tons)	630	613
lasterboard (1000 sq. yds.)	3,021	3,141
Drain Pipes (Salt glazed) (1000 tons)	44·5	37·7
Bricks (millions)	411	371

LONDON BUILDERS' FOREMEN'S ASSOCIATION

ANNUAL DINNER AND DANCE

MR. PHILIP SMALLWOOD, President of the London Master Builders' Association, presided at the annual dinner and dance of the London Builders' Foremen's Association, held on Friday, September 26, at the Connaught Rooms, Great Queen-street, London.

Proposing the toast of "The Association and its President," MR. D. C. BURGESS, vice-president of the L.M.B.A., said the backbone of the building industry was the building foreman. The L.B.F.A. was now more than a quarter of a century old. It was formed in 1921, the number admitted in that year being 273; of those, 77 were still members, 45 "operating" and 32 "non-operating." The total number admitted up to June this year was 812, and the present membership was 346.

The speaker rather regretted, not that there were 346 members, but that there were not more of them. He would ask the Association if it were not possible to admit to membership those who were at present precluded, and who would be able to assist and guide the Association in the direction it desired to go. Could not the Association interest itself in technical methods, the T.W.I. scheme and mechanisation? The benefits which would accrue from a greatly increased membership would have a marked effect upon the whole industry generally. At the present time co-operation in industry was absolutely vital, and by this he meant that the employers must co-operate with the operatives as well as the operatives with the employers.

MR. A. G. DAVIES, the President of the L.B.F.A., responding, recalled Mr. Burgess's remarks concerning membership and the need for increasing it. "We surely have tried," he said. "We have not had a chance to find out who the new foremen may be among the increased membership of the L.M.B.A."

No Jobs as Foremen.

At the present time the Association had about 60 members over 70 years of age. Many men had not been able to get jobs as foremen, and had had to take jobs as clerks of works. They had had to tell them that they must get jobs as foremen, but when they had applied they had been asked, not "How much do you know?" or "What can you do?" but "How old are you?" It would appear that employers were seeking candidates for the Olympic games and not for general foremen.

The toast of "The Ladies" was

humorously proposed by MR. G. WINSTANLEY, who expressed the sincere hope that they would spend a thoroughly enjoyable evening.

MRS. P. SMALLWOOD, replying, thanked the Association for its kind hospitality and for the gifts distributed among the ladies.

MR. W. F. SIMPSON, Vice-President of the L.B.F.A., gave the toast of "The London Master Builders' Association and its President," and MR. PHILIP SMALLWOOD, in reply, said that the chief attribute of a foreman was foresight. He congratulated the London Builders' Foremen's Association on arranging their annual dinner and dance before October 1.

During the evening, MR. G. H. A. HUGHES, Director of the London Master Builders' Association, spoke of the great loss the industry had suffered by the recent passing of Mr. Ernest J. Brown, the "father" of the industry.

CONTROL OF ENGAGEMENT ORDER

SOME DETAILED NOTES

THE Ministry of Labour and National Service announced on September 18 the main provisions of the new Control of Engagement Order made that day and due to come into force on Monday, October 6. The following notes are intended to supplement that announcement on a number of points of detail.

Nature of Control.—The Order controls engagement by prohibiting: (a) employers from seeking to engage any person for employment (*e.g.*, by advertisement, poster or circular letter, see below), or engaging any person for employment, except by notifying particulars of vacancies to a local office of the Ministry of Labour and National Service or to an employment agency approved under the Order; (b) employers from engaging any person for employment unless that person has been submitted to him by a local office or an employment agency approved under the Order; (c) employees from taking up employment unless they are submitted to the employment by a local office or an employment agency approved under the Order.

Approved Employment Agencies.—The Order incorporates the provisions of previous Orders for the approval, subject to conditions, of organisations providing facilities for placing persons in employment. The approval of the trade unions and other organisations approved under previous Orders and still current is continued, subject to the same conditions as hitherto.

Permits.—Permits may be issued to individual workers where local offices of the Ministry of Labour and National Service decide that the workers can more suitably obtain employment by their own efforts.

Exemption Certificates. — Exemption certificates may be issued to employers, subject to conditions specified or described in the certificate, to enable them either to seek to engage, or to seek to engage *and* engage, men or women for specified employments.

Re-engagements. — Re-engagement by the same employer may be permitted in the following circumstances, without reference to a local office: (a) immediately following any period of sickness which caused the termination of employment—but in the case of employees of building or civil engineering contracting undertakings, the re-engagement must be for work on the same site at which they were working before the engagement was terminated; (b) on resumption of work on the termination of any stoppage of work due to a trade dispute which caused the suspension of employment; (c) if the period between termination and re-engagement is not more than 14 days—except in the case of employees of building and civil engineering contracting undertakings.

"Seeking to Engage."—The expression "seeking to engage" used above prohibits an *employer* from advertising, circularising, exhibiting posters or otherwise publicising vacancies in respect of persons covered by the Order. An *employee* is, however, at liberty to seek employment by advertising or by direct approach to an employer; but if he is within the restricted classes, he must obtain this employment by applying to and being submitted by a local office or approved employment agency. An employer who makes contact with an employee covered by the Order, through advertisement or direct approach, must not offer to engage him without first consulting a local office or approved employment agency.

Advertisements, Notices, etc.—Advertisements may be published and notices, etc., exhibited, if: (a) they are specifically restricted to excepted persons, *e.g.* (i) boys and girls under 18 or women of 41 and over or men of 51 and over; (ii) men or women released from the Services in Class A; or (b) if the employer holds a current exemption certificate issued by a local office enabling him to advertise, subject to such conditions as may be specified in the certificate; (c) they appear under a cautionary heading on the following lines: "None of the vacancies in these columns relates to a man between the ages of 18 and 50, inclusive, or a woman between the ages of 18 and 40, inclusive, unless he or she is excepted from the provisions of the Control of Engagement Order, 1947, or the vacancy is for employment excepted from the provisions of that Order."

Whilst any advertisement may be published under a cautionary heading as suggested, it should be borne in mind that, if both restricted and unrestricted vacancies appear under the same heading, employers who advertise unrestricted vacancies may feel that they have been deprived of the benefit of their freedom from restrictions, since workers will not as a rule be in a position to judge which vacancies they may or may not apply for. If, therefore, newspapers and other publications decide to separate restricted vacancies from unrestricted vacancies, the last phrase of the cautionary heading for the restricted vacancies may be omitted, *i.e.*, it will end with the words "Control of Engagement Order, 1947."

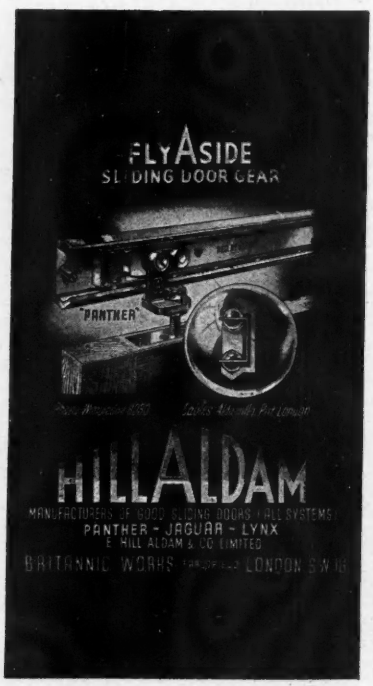
Employment in a Managerial Capacity.—Employment in a managerial capacity is excepted from the Order. The term "manager" does not necessarily comprise all persons who are called managers; it relates to a salaried official in executive charge of a department, works, contract or office, and includes superintendents, and general foremen and head foremen in charge of other foremen, but not foremen, chargemen, piece-workers or anyone in receipt of hourly rates of pay.

Employment in a Professional, Administrative or Executive Capacity.—This is also an excepted employment. (a) PROFESSIONAL: Persons holding standard qualifications of a professional nature are normally regarded as professional; but not all qualified persons are necessarily employed in a professional capacity. For example, a qualified accountant employed as an audit clerk could not be said to be employed in a professional capacity. (b) ADMINISTRATIVE AND EXECUTIVE: Employment in an administrative or executive capacity may be held to exist if the person concerned is required to take decisions, to organise or to develop ideas on his own initiative, even within a clearly defined policy or directive.

The following are examples of professional, administrative or executive workers for employment in which capacities persons may ordinarily be engaged direct, unless they are normally employed in agriculture or coal mining. The list contains examples only, and is not intended to be exhaustive:—

Accountants, actuaries, architects (including town planners), auctioneers, average adjusters and underwriters, barristers and solicitors, buyers, clerks of works, commercial travellers, dentists, dieticians, insurance assessors, journalists, medical practitioners, nursery nurses (certificated), nurses and midwives (including students, pupils and probationers), opticians, patent agents, pharmacists, physiotherapists and radiographers, political organisers and agents, scientists, secretaries to clubs, companies and institutions, social workers, surveyors, teachers, technical advisers and representatives, theatrical artists and professional workers, valuers, welfare supervisors.

The following are examples of workers whose employment is not regarded as "professional, administrative or executive." For employment in these capacities, persons must be engaged through a local office of the Ministry, unless the worker is an excepted person. This list is not exhaustive: Clerks and supervisors, other than those with executive responsibility; shorthand typists and typists; distributive trades (wholesale and retail) assistants and indoor salesmen; domestic workers in private or institutional service, industry or offices, including doormen, commissionaires and watchmen; draughtsmen designers and stressmen (not of executive or higher standard); manual workers of all kinds, including chargehands and foremen; transport workers and operative staffs, *e.g.*, drivers, conductors, guards and inspectors, including foremen.



RATES OF WAGES IN THE BUILDING TRADE

(Every endeavour is made to ensure accuracy, but we cannot be responsible for errors)

KEY TO SCHEDULE OF GRADE RATES.

Grade Classification.	A	A1	A2	A3
Craftsmen	2/6	2/5½	2/5	2/4½
Labourers	2/–	1/11½	1/11½	1/11

Town.	Grade.
Aberavon	A
Aberdare	A
Abergavenny	A
Abingdon	A2
Accrington	A
Addlestone	A
Aldeburgh	A3
Aldershot District	A2
Alfreton U.D.	A
Alnwick	A1
Altrincham	A
Amble	A1
Amersham	A1
Ammanford	A
Andover	A2
Ardingly	A2
Arundel	A2
Ascot	A2
Ashby-de-la-Zouch U.D.	A
Ashby Woulds U.D.	A
Ashford (Kent)	A2
Ashford (Middlesex)	A
Ashington	A
Ashtead	A
Ashton-under-Lyne	A
Aspatria and Brayton	A2
Atherstone	A2
Aylesbury	A2
Aylesby	A
Aylsham	A3
Bagshot	A2
Bakewell U.D.	A2
Banbury	A2
Barnard Castle U.D.	A1
Barnoldswick U.D.	A2
Barnsley	A
Barrow-in-Furness	A
Barrow-upon-Soar R.D. (exc. Thrussington A2)	A
Barry	A
Basford R.D. (exc. Willoughby-on-the-Wolds A2)	A
Basingstoke	A2
Bath	A1
Batley	A
Baxterley	A1
Beaconsfield & District	A1
Beamish	A
Bearl	A
Bearpark	A
Beccles	A3
Bedale R.D.	A
Bedford	A
Bedlington	A
Bedwas	A
Beeston & Stapleford U.D.	A
Belper U.D.	A
Belton	A
Berkhamstead	A1
Berrington	A1
Berwick District	A1
Beverley	A
Bexhill-on-Sea	A2
Biggleswade	A2
Billericay	A1
Billing	A
Billingham U.D.	A
Bilsthorpe	A
Birchington	A2
Birkenhead	*
Birmingham C.B.	†A
Bishop Auckland	A
Bishop's Stortford	A1
Bispham	A
Blackburn	A
Blackpool	A
Blackwell R.D.	A
Blaydon U.D.	A
Blidworth	A
Blyth	A
Bognor Regis	A2
Boldon U.D.	A
Bolsover U.D.	A
Bolton	A
Bourne End	A1
Bournemouth District	A1
Bracknell	A2
Bradford	A
Bradford-on-Avon	A2
Braintree	A2
Breconshire, County of	‡A3
Brent Knoll	A2
Brentwood	A
Bridlington	A1
Brierfield	A
Brighouse	A
Brighton	A1
Bristol	A
Broadstairs	A2
Bromsgrove U D.	A1
Brough	A
Broughton (Cheshire)	A
Buckley	A
Bungay	A3
Burnham-on-Crouch	A3
Burnley	A
Burton-on-Trent C.B.	A
Bury	A
Bury St. Edmunds	A1
Buxton	A1
Byfleet	A1
Calder Valley	A
Cambridge	A
Cannock U.D.	A
Canterbury	A2
Cardiff	A
Cardiganshire, County of	‡A3
Carlisle	A
Carmarthenshire, Cnty. of	‡A3
Carnarvonshire, Cnty. of	‡A3
Carnforth	A
Castleford	A
Caterham	A
Chapel-en-le-Frith	A1
Charmy Down	A1
Chatham & District	A1
Cheadle (Staffs.) R.D.	A
Chelmsford	A
Cheltenham	A1
Chepstow	A1
Chertsey	A
Chester	A
Chesterfield M.B.	A
Chesterfield R.D.	A
Chester-le-Street U.D.	A
Chichester	A2
Chippenham (inc. Chippenham Within and Hardenhuish)	A2
Chorley	A
Clacton	A1
Cleethorpes	A
Clevedon	A1
Cleveleys	A
Clitheroe	A
Coalville U.D.	A
Cobham (Surrey)	A
Colchester	A
Colne	A
Colwyn Bay	A2
Congleton	A1
Consett	A
Conway	A2
Cornwall, County of	‡A3
Coventry C.B.	A
Cranbrook	A2
Cranleigh	A2
Crawley (Sussex)	A2
Crewe	A1
Cromer	A1
Crowborough	A2
Cuckfield	A2
Dalton-in-Furness	A
Darlington District	A
Darwen	A
Deal	A2
Denbigh Town	A2
Derby C.B.	A
Devizes	A2
Devon, County of	‡A2
Dewsbury	A
Didcot	A2
Diss	A3
Doncaster	A
Dorking	A1
Dorset, County of (excepting Poole and Wimborne A1)	A3
Dover	A2
Dovercourt	A1
Driffield U.D.	A1
Droitwich M.B.	A1
Dudley M.B.	A
Dunstable	A
Durham City	A
Eastbourne	A1
E. Glam. & Mon. Val.	A
East Grinstead District	A2
Eastwood (Notts.) U.D.	A
Ebbw Vale & District	A
Edenbridge	A2
Ely	A3
Epping	A
Exeter	A1
Fakenham	A3
Falmouth	A2
Fareham	A
Faversham	A2
Felixstowe	A1
Filey U.D.	A1
Fleetwood	A
Flint	A
Folkestone	A2
Frinton	A1
Frome	A1
Gainsborough U.D.	A1
Gateshead	A
Gillingham (Kent)	A1
Glossop	A
Gloucester	A1
Gloucestershire, Cnty. of	‡A2
Godalming	A2
Goole	A
Gosport	A
Grantham M.B.	A1
Gravesend	A
Great Yarmouth	A1
Grimsby	A
Guildford District	A2
Guilsborough	A1
Guiseley	A
Halesowen M.B.	A
Halifax	A
Halstead	A2
Haresfield	A1
Harlow	A1
Harpenden	A1
Harrogate	A
Hartlepools	A
Harwich	A1
Haslemere	A2
Hastings	A2
Hatfield	A
Haywards Heath	A2
Hemel Hempstead	A1
Henley-on-Thames	A2
Hereford	A2
Herefordshire, Cnty. of	‡A3
Herne Bay	A2
Hertford	A
Hexham	A
Heysham	A
High Wycombe	A1
Highworth	A2
Hinckley U.D.	A
Hitchin	A1
Hoddesdon	A
Holt (Norfolk)	A3
Horley	A2
Horsham	A2
Horwich	A
Huddersfield	A
Hull	A
Hunstanton	A2
Huntingdon	A3
Ilkley	A
Ingatestone	A1
Ipswich	A
Isle of Sheppey	A2
Isle of Thanet	A2
Isle of Wight	A3
Jarrow B.	A
Keighley	A
Kendal	A
Kenilworth U.D.	A
Kettering M.B.	A
Keynsham	A
Kidderminster M.B.	A1
King's Lynn	A2
Kingskerswell	A1
Kingsteignton	A1
Kirkham	A
Knaresborough U.D.	A
Knowle	A1
Lancaster	A
Leamington M.B.	A
Leatherhead	A
Leeds	A
Leicester C.B.	A
Leighton Buzzard	A2
Letchworth	A1
Lewes	A2
Lichfield M.B.	A1
Lincoln C.B.	A
Littlehampton	A2
Liverpool	*
Llandudno	A2
Llanelly	A
London	*
Long Eaton	A
Loughborough M.B.	A
Louth M.B.	A3
Lowestoft	A1
Loxton	A2
Luton	A
Lyneham (Devon)	A1
Macclesfield	A1
Maidenhead	A1
Maidstone	A1
Maltby	A
Maldon (Essex)	A2
Malvern U.D.	A2
Manchester	A
Manningtree	A1
Mansfield M.B	A
March	A2
Margate	A2
Market Harborough	A1
Maryport	A
Matlock U.D.	A1
Melksham	A2
Melton Constable	A3
Melton Mowbray U.D.	A2
Merthyr	A
Middlesbrough	A
Middleton	A
Middlewich	A1
Milford Haven	A2
Morecambe	A
Morley	A
Mundesley	A2
Nantwich	A1
Nelson	A
Newark-on-Trent R.D.	A1
Newbury	A2
Newcastle-on-Tyne	A
Newcastle-under-Lyme	A
New Forest District	A2
Newmarket	A2
Newport, Mon	A
Newport Pagnell	A2
Newton Abbot	A1
Northallerton Dist.	A
Northampton C.B.	A
North Shields	A
Norton Radstock	A1
Norwich	A
Nottingham C.B.	A
Nuneaton M.B.	A
Oakham U.D.	A3
Oldham	A
Ongar	A
Ormskirk	A
Ossett and Horbury	A
Oxford	A1
Oxted	A1
Paignton	A1
Peterborough	A
,, Soke	A1
Pickering	A3
Plymouth	A
Pontefract	A
Pontypridd District	A
Portishead	A
Portland Stoneyards	A
Portsmouth	A
Port Talbot	A
Preston	A
Pudsey	A
Pulborough	A2
Radnorshire, County of	‡A3
Ramsgate	A2
Rayleigh	A1
Reading	A1
Redcar B.	A
Redditch U.D.	A1
Redhill and Reigate	A
Ripon	A3
Rochdale	A
Rochester	A1
Rotherham	A
Rugby M.B.	A
Saffron Walden	A2
St. Albans	A
St. Helens	A
St. Neots	A2
Salisbury City	A2
Salisbury Plain	A2
Sawbridgeworth	A1
Saxmundham	A3
Scarborough	A1
Scunthorpe	A
Selby	A
Sevenoaks	A1
Sheerness	A2
Sheffield	A
Shipley	A
Shoeburyness	A
Shoreham	A1
Shrewsbury M.B.	A
Sittingbourne	A2
Skegness U.D.	A1
Skipton U.D.	A2
Sleaford U.D.	A3
Slough	A1
Smethwick C.B.	†A
Snettisham	A2
Somerset, County of	‡A3
Southampton	A
Southend-on-Sea Dist.	A
Southport	A
South Shields C.B.	A
Spalding U.D.	A2
Stafford M.B.	A
Staines	A
Stamford M.B.	A1
Stantonwick	A
Stevenage	A1
Stockport	A
Stockton R.D.	A
Stockton-on-Tees	A
Stoke-on-Trent C.B.	A
Stoke Orchard	A1
Stourbridge M.B.	A
Stourport U.D.	A1
Stowmarket	A3
Stratford-on-Avon M.B.	A1
Sunderland District	A
Sunningdale	A1
Sutton Coldfield M.B.	A
Swaffham	A3
Swanage	A3
Swansea	A
Swindon	A2
Swinton U.D.	A
Tamworth M.B.	A
Tenterden	A2
Tewkesbury	A1
Thames Haven	A
Thetford	A3
Thorpe Bay	A1
Thurrock U.D.C. Area	A
,, North of, to Billericay	A1
Tilbury	A
Todmorden	A
Tonbridge	A1
Torquay	A1
Totnes	A1
Trowbridge	A2
Tunbridge Wells	A1
Tynemouth C.B.	A
Uppingham (Salop)	A1
Uttoxeter U.D.	A2
Wakefield	A
Wallsend B.	A
Walsall C.B.	A
Walsden	A
Walton-on-Naze	A1
Ware	A
Warminster	A2
Warrington	A
Warwick M.B.	A
Wellington R.D.	A1
Wells (Norfolk)	A3
Welwyn	A
Welwyn Gar. City	A
West Bromwich C.B.	A
Westbury	A2
Westcliff-on-Sea	A
Westerham	A1
Weston-super-Mare	A1
Weybridge	A
Weymouth	A2
Whitby	A2
Whitstable and District	A2
Wickford	A1
Widnes	A
Wigan	A
Wigton	A3
Willington	A
Wilmslow	A
Wilts, County of	‡A3
Winchester	A2
Windermere	A3
Windsor and Eton	A1
Wisbech	A2
Witham	A2
Woking (District)	A1
Wokingham	A2
Wolverhampton C.B.	A
Woodbridge	A3
Worcester C.B.	A
Workington	A
Worksop M.B.	A1
Worthing	A2
Wrexham (incl. Cefn)	A
Wroughton	A2
Wylam	A
Wymondham	A3
York	A

* For Birkenhead Liverpool, and London the rates are :—Craftsmen, 2s. 7½d. ; Labourers, 2s. 1½d. In the case of London the rate beyond the 12-mile radius is :—Craftsmen, 2s. 7d. ; Labourers, 2s. 1d.

† Plus 2d. per working day.

‡ This is the County rate and applies except where higher grades are stated.

NOTE.—Carpenters, Joiners and Plumbers in all towns and districts receive 2d. per day Tool Allowances.

WOMEN'S RATES.—In all districts throughout the country the rate of wages for women engaged in craft processes is 1s. 9d. per hour. Women introduced to carry out work other than craft processes, 1s. 5½d. per hour.

For Building Trade Wages in Scotland, see page 387

PRICES CURRENT OF MATERIALS*

NOTE.—These prices apply to large quantities of materials at works at London stations, or site, in London area as stated. Prices for smaller quantities ex merchant's warehouse will of course be higher. Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry. The prices of soft woods are for cash on delivery.

BRICKS, &c.

	£ s. d.
First Hard Stocks	7 10 0
Second Hard Stocks	7 0 0
Mild Stocks	6 0 0

All loaded free into lorry at the works. The question of haulage is still very difficult and prices must be obtained from job to job.

2½ in. Phorpres. A discount of 6d. 1,000 only monthly account.	Certain London L.M.S. Stations per 1,000. s. d.	Sites in PBMA Area, N. of Thames per 1,000. s. d.
Pressed	70 0	85 0
Keyed	72 0	87 0
Single Bullnose	90 0	105 0
Rustics	90 0	105 0
Whites	90 0	105 0

	£ s. d.
Best blue Pressed Staffs. (London Stns.)....	16 13 0
Do. Bullnose (London Stns.)	17 5 6
Blue Wire Cuts (London Stns.)	14 13 6

Best Stourbridge Fire Brick (London Stns.) :—

£ s. d.	£ s. d.
2½ in. 14 11 0	3 in..... 17 10 0

GLAZED BRICKS (London Stns.).

Best White Ivory and Salt Glazed Stretcher	40 0 0	D'ble Str'tch'rs D'ble Headers .. One side & two ends	53 10 0 48 10 0 54 10 0
Headers	39 10 0	Two sides & one end	56 0 0
Quoins, Bullnose and 4½ in. Flats	50 0 0	Splays and Squints	52 0 0

Second Quality, £2 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours. Hard Glaze, £5 10s. extra over white.

Haulage to site 20s. 1,000.

PARTITION SLABS.

Delivered London Area.
12 miles radius Charing Cross.

HOLLOW CLAY PARTITION BLOCKS.
London Brick Company.

Minimum Lorry Loads. Keyed.	s. d.
2" per yd. sup. 120 yds.	3 1
2½" " " 110 "	3 4
3" " " 100 "	4 0
4" " " 84 "	4 7

Half blocks *add* 2s. per yard super to above prices.

CLINKER CONCRETE.

2" per yd. sup.	2 8	3" per yd. sup.	4 0
2½" " "	3 4	4" " " ..	5 3

CRANHAM TERRA COTTA

Size 12 x 9 x 2" per yd. super			3 1
Size 12 x 9 x 2½" " "			3 4
Size 12 x 9 x 3" " "			4 0
Size 12 x 9 x 4" " "			4 7

HEMPSTEAD—KEYED TWO SIDES.

12 x 9 x 2"	3 1	12 x 9 x 3"	4 0
12 x 9 x 2½"	3 4	12 x 9 x 4"	4 7

Per yard super d/d. Free on site, London.
Plus 2d. for smooth one side, and 4d. for smooth both sides.

STONE.

	s. d.
BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	4 1½
BEER STONE—RANDOM BLOCK— Free on rail at Seaton Station per ft. cube	2 3
Delivered free on rail Nine Elms, S.R. „	3 1½
Selected approximate size one way, 1d. per cubic ft. extra, selected approximately three sizes or for special work, 3d. per cubic ft. extra.	
PORTLAND STONE— Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R. .....per ft. cube	4 7½
Do. do. delivered on road waggons as above stations ..... per ft. cub.	4 7½
White basebed, 3d. per ft. cube extra.	
NOTE.—1d. per ft. cube extra for every ft. over 20 ft. *average* and ¼d. beyond 30 ft.	
HOPTON-WOOD STONE—, F.O.R. Quarries, Wirksworth, Derbyshire.	s. d.
Random blocks from 10ft. and over p.ft.cb.	13 2
Sawn two sides	26 11
Sawn three or four sides	31 11
YORK STONE, BLUE—*Robin Hood Quality*. Delivered at any Goods Station, London.	
6 in. sawn two sides landings to sizes (under 30 ft. super) .....per ft. super	8 0
6 in. rubbed two sides, ditto „	9 4
3 in. sawn two sides slabs (random sizes) ..... „	3 10
2 in. to 2½ in. sawn one side slabs (random sizes) (paving) .... „	2 0
1½ in. to 2 in. ditto ..... „	1 9½
HARD YORK— Delivered at any Goods Station, London. Scrappled random blocks per ft. cube	12 0
6 in. sawn two sides landings to sizes (under 40 ft. super) ..... per ft. super	8 10
6 in. rubbed two sides, ditto .. „	10 6
4 in. sawn two sides slabs (random sizes) ..... „	5 8
3 in. ditto ditto..... „	4 3
2 in. self-faced random flags per yd. super	16 0

SAND.

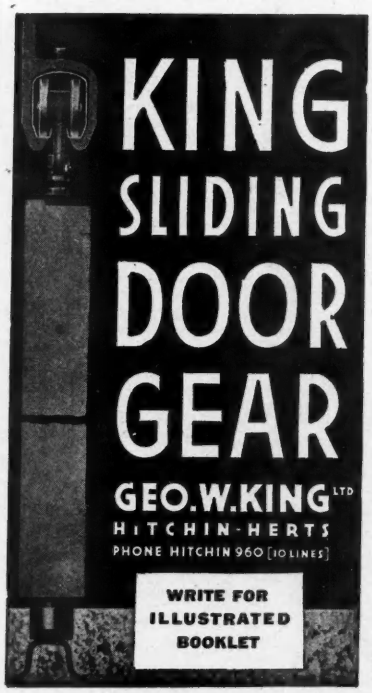
D/D site in full lorry loads. Average of prices for Boroughs of Westminster, Paddington, Holborn and St. Pancras.

Thames Ballast	15s.	9d. per yd.
Pit Ballast	15s.	10d. „ „
Pit Sand	15s.	2d. „ „
Washed Sand	17s.	0d. „ „
¾ in. shingle	15s.	2d. „ „
¾ in. Broken Brick.....	17s.	6d. „ „
Pan Breeze	10s.	4d. „ „

CEMENT.

	£ s. d.
Best British Portland Cement. Standard Specification delivered London area.	
6 ton loads and upwards site.....per ton	2 19 6
1 to 6 tons site	3 2 6
In non-returnable paper bags charged at 10/– net per ton or 6d. each net per sack in lots of less than 1 ton.	
In non-returnable jute sacks charged at 8/– per ton.	
In returnable jute sacks charged at the rate of 35/6 net per ton of cement or 1/9½ net per sack in lots of less than 1 ton. Credit on return at 1/6 net per sack.	
In returnable cotton sacks charged at the rate of 3/4 net each sack. Credit on return at 3/–net each sack.	
"Ferrocrete" Rapid Hardening Cement 6 ton loads and upwards site	3 5 6
1 to 6 tons site	3 8 6
In paper bags 10s. per ton extra.	
"Aquacrete" Water Repellent cement, 32/6 per ton on ordinary "Blue Circle" prices. In paper bags 8s. per ton extra.	
Red, Buff or Khaki "Colorcrete" in 6-ton lots	5 1 0
In paper bags 8s. per ton extra.	
Other colours, according to colour. In 4 ton lots from 196/– to 405/– per ton (including paper bags).	
"Snowcrete" White Portland Cement (in free paper bags).....	11 12 0
Under one ton ..... per cwt.	0 13 11
"417" Cement (Ultra Rapid Hardening) Delivered Site London Area in 6 ton lots and upwards	4 1 0
In paper bags 8s. per ton extra.	
Super Cement (Waterproof), bags extra ..	4 6 6
Cullamix Tyrolean Finish....£7 13 6 to (1 ton lots and upwards, including cost of Paper Bags).	9 7 0

£ s. d.	£ s. d.
Roman Cement 8 10 0	Keen's Cement, White 7 17 3
Parian Cement 7 10 6	Pink 7 11 0



PLASTER.

	£ s. d.		£ s. d.
Coarse, Pink	4 10 9	Sirapite, Coarse..	4 11 6
„ White	5 0 3	„ Finish ..	4 19 6

Above prices for 1-ton loads and over London Area.

Best Ground Blue Lias Lime	4 5 9	Grey Stone Lime Chalk Lime	4 7 0 4 2 3
Granite Chippings	2 8 0	Hair per cwt.	4 4 6

NOTE.—Sacks are charged 2s. 0d. each, and credited 2s. 0d. if returned in good condition within one month, carriage paid.

Stourbridge Fireclay in paper bags, £3 4s. 0d., 6-ton lots at railway depot.

TILES.

Delivered at London rate stations in full truck loads of not less than 6 tons.....Per 1,000
f.o.r. London.

	£ s. d.
Best machine-made tiles from Broseley or Staffordshire district.....	£8 4 0
Ditto hand-made ditto	9 1 9
Ornamental ditto	9 11 3
Hip and valley tiles—Hand made ..... (per dozen) —Machine-made	17 8 16 8

NOTE.—Breakage in transit, purchasers' responsibility.

HARD WOOD.

1 INCH AND UP THICK.

Average price for prime quality.	s. d.		£ s. d.	Foot cube.
Dry English Wainscot Billets ..	16 0	to	0 18 0	
Dry Slavonian Billet Wainscot	17 0	to	1 0 0	
Dry Cuba Mahogany logs	21 0	to	1 4 0	
Square-edged Honduras Mahogany			0 16 6	
Long Cut Honduras Mahogany.....			0 17 6	
American Figured Oak			0 13 0	
American Plain Oak.....			0 12 6	
Jap Figured Oak			0 13 0	
Jap Plain Oak			0 12 6	
Teak			0 15 6	
American Whitewood			0 12 6	
African Whitewood			0 8 0	
African Mahogany			0 11 0	
Australian Walnut			0 19 0	
Australian Silky Oak			0 12 6	
Best Scotch Glue	per cwt.		7 0 0	
Liquid Glue	per gallon		2 2 0	

SOFT WOOD.

MERCHANTABLE BRITISH COLUMBIAN.

	Minimum. £ s. d.	Maximum. £ s. d.
Scantlings in imported sizes		
2 in. by 3 in. by 4 in. by 11 in.	66 15 0	77 15 0

PLANED BOARDS.
PRIME CLEAR BRITISH COLUMBIAN PINE.

	Per standard s. d.
1 in. by 11 in. } 1 in. by 9 in. }	90 15 0
	Per square. s. d.
1 in. plain edge flooring	76 0
1¼ in. ditto	95 1½
1 in. tongued and grooved	76 0
1¼ in. ditto	95 1½

MATCHING.

	Per square. s. d.
⅝ in.	52 7½
¾ in.	59 10½
1 in.	78 9

PLUMBERS' BRASS WORK.

Delivered in London.
M.O.H.

S.D. BIBCOCKS CRUTCH HEAD, FOR IRON.
½ in. 66/– ¾ in. 108/– per doz.
TOILET BIB COCKS FOR IRON.
½ in. 114/– ¾ in. 171/– per doz.
S.D. STOP COCKS FOR IRON.
½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
72/– 111/– 189/– 269/– 363/– 590/– per doz.
S.D.S. COCKS WITH TWO UNIONS FOR LEAD.
½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
102/6 164/– 264/6 369/– 438/– 736/– per doz.
DOUBLE NUT BOILER SCREWS.
½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
17/– 20/– 33/– 68/– 108/– 140/– per doz.
HEAVY CROYDON BALL VALVES.
½ in. ¾ in. 1 in. 1¼ in. 1½ in.
93/– 149/– 185/– 371/– 500/– per doz.
CAPS AND SCREWS.
1¼ in. 1½ in. 2 in. 3 in. 3½ in. 4 in.
23/6 26/6 45/– 68/– 89/– 112/– per doz.
BRASS SLEEVES.
1½ in. 2 in. 3 in. 3½ in. 4 in.
29/– 31/– 67/– 83/– 101/– per doz.
LEAD TRAPS WITH BRASS CLEANING SCREWS.
1½ × 6 lb. 1½ × 6 lb. 2 × 7 lb. 3 × 7 lb.
Lead P. 57/– 69/– 111/– 144/– per doz.
Lead S. 69/– 84/– 138/– 153/– per doz.

SOLDER.—Plumbers', 2/9, Tinmen's, 3/6, Blow pipe, 3/8 per lb.

Copper Tubes....2/1 per lb. Basis.
Brass Tubes....2/– lb. Basis.
Basis prices are subject to extras.

* The information given on these pages has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information. Prices are subject to 2½ per cent. cash discount.

PRICES CURRENT OF MATERIALS—(contd.)

See Note at top of preceding page.

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION, PER TON—

	£	s.	d.
R. S. Joists, cut and fitted	£28	0	0
Plain Compound Girders	32	10	0
" Stanchions	40	0	0
In Roof Work	50	0	0

NOTE.—These prices are for standard pieces and not special pieces of an awkward nature.

MILD STEEL ROUNDS.—To London Stations, per ton.

Diameter.	£	s.	d.	Diameter.	£	s.	d.
¼in.	24	5	0	½ in.	22	15	0
⅜ in.	23	15	0	⅝ in. to 2¼ in.	22	5	0
⅛in.	23	5	0				

WROUGHT TUBES AND FITTINGS.

Deliveries from works.

Deliveries from London stock further 2½% gross.

	Tubes, ½"/6" %	Tubulars, ½"/6" %	10/17 and 19/24 ½"/2" %	Flanges. ½"/2" %	2½"/6" %
Light weight	51½	—	47½	51	57½
Heavy weight	44	44	39½	41	49½
Galv. lightweight	30	—	30	30	30
Galv. heavyweight	20	20	20	20	20

Tubes and tubulars sizes ½"/⅜" inclusive, charged extra of 5% less gross.

Fittings. Figs. 25/34 5% less gross discount.

Terms.—Nett cash end of month following date of invoice. Carriage paid on lots of £10 nett value and over.

C.I. HALF-ROUND GUTTERS.—London Prices ex Works, per yd. in 6 ft. lengths.

	Gutters.	Nozzles.	Stop ends.
3 in.	2/2	1/11	6½d.
3½ in.	2/5½	2/2	6½d.
4 in.	2/5½	2/3½	10½d.
4½ in.	2/10	2/7½	11½d.
5 in.	3/1	3/–	1/3

O.G. GUTTERS.

3 in.	2/10	2/6½	7½d.
3½ in.	3/2	2/6½	10½d.
4 in.	3/2	2/7½	11½d.
4½ in.	3/4	3/1	1/3
5 in.	4/–	3/7	1/4

RAIN WATER PIPES.

Per yd. in 6 fts.	Pipe.	Bends. Angles.	Branches.
2 in.	4/6	2/4	3/6
2½ in.	4/8	2/8	4/–
3 in.	5/3	3/5	4/11
3½ in.	6/–	3/11	5/9
4 in.	6/11	4/9	6/11

NET PRICES.

Tonnage allowance—4-ton lots, 5 per cent.
2-ton lots, 2½ per cent.

L.C.C. COATED SOIL PIPES.—London Prices, ex stock.

Per yd. in 6 fts.	Pipe.	Bends.	Branches.
2 in.	5/5	4/1	5/–
2½ in.	5/8	4/7	6/2
3 in.	6/3	5/–	7/5
3½ in.	7/1	6/2	8/7
4 in.	8/1	6/11	10/–

L.C.C. COATED DRAIN PIPE.

	cwt.	qr.	lbs.	per yard.	Bends.	Branches.
				in 9 fts.		
4 in.	1	1	17	10/8	9/8	16/11
6 in.	2	0	1	15/10	20/–	34/8

Per ton basis in London.

	£	s.	d.
IRON.—Staffordshire Crown, Merchant quality	24	10	0
IRON.—Staffordshire Marked Bars	25	5	0
Mild Steel Bars	20	10	0
Mild Steel Hoops	22	7	6

Ex Merchant's Stock. per ton (two-ton) lots.

	£	s.	d.
Soft Steel Sheets, C.R. and C.A.—			
20 gauge	26	5	0
24 gauge	27	5	0
26 gauge	28	5	0
Galvanised Corrugated Sheets, 6 ft. to 9 ft.—			
20 gauge	29	12	6
24 gauge	31	7	6
26 gauge	33	12	6
Galvanised Flat Sheets, C.R. and C.A.—			
20 gauge	30	12	6
24 gauge	32	7	6
26 gauge	34	12	6

Per ton.

	£	s.	d.
Cut Nails, 3 in. and up	31	10	0

ALL NET.

METAL WINDOWS.—Standard sizes suitable for complete houses, included all fittings, painting two coats, and delivery to job, average price about 4s. 6d. to 4s. 9d. per foot super.

LEAD, &c.

(Deliveries in London 5 cwts.)	Per ton. £	s.	d.
LEAD.—Sheet, English, 3½ lb. and up	108	15	0
Pipe in coils	110	0	0
Soil pipe	113	0	0
Compo pipe	116	0	0

NOTE.—Country delivery, 10/– per ton extra, lots under 3 cwt. 4/– per cwt. extra and over 3 cwt. and under 5 cwt., 3/– per cwt. extra. Extra if cut to size. Old lead, ex London area, per ton £63 0 0. Buyers pay carriage.

BUILDING TRADE WAGES IN SCOTLAND

Following are grade rates authorised by the Scottish N.J.C. from January 1, 1946. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

Grade Classification	A	Craftsmen	2/6	Labourers	2/-
Aberdeen	A	Dumfriesshire	A	Inverness	A
Ayrshire	A	Dundee	A	Inverurie	A
Banff	A	Dunoon	A	Kincardineshire	A
Berwickshire	A	East Fife	A	Kinross-shire	A
Bridge of Allan	A	East Lothian	A	Lanarkshire	A
Broughty Ferry	A	Edinburgh	A	Midlothian	A
Clackmannanshire	A	Fifeshire	A	Monifieth	A
Doune	A	Forfarshire	A	Moray and Nairn	A
Dunblane	A	Glasgow	A	Newport	A
Dunbartonshire	A	Greenock	A	Peeblesshire	A
Dumfries	A	Hamilton	A	Perth	A
				Perthshire	A
				Peterhead	A
				Renfrewshire	A
				Rothesay	A
				Roxburghshire	A
				St. Andrews	A
				Selkirkshire	A
				Stewartry	A
				Stirlingshire	A
				Stornoway	A
				Tayport	A
				West Lothian	A

The Scottish N.J.C. award on which this is based does not provide for any variation to current rates of Apprentices' wages, which will be considered by the General Council of the Apprenticeship Scheme. The Information given in this table is copyright.

Painters' rates : 2/6 Grade A ; 2/5 Grade B. (Grade B towns are Banff and Moray and Nairn).

GLASS.

SHEET GLASS, ORDINARY GLAZING QUALITY.

CUT SIZES.	Per ft. super. d.
18 oz.	3¾
24 oz. Clear	5½
26 oz.	6½
32 oz.	8½

ENGLISH ROLLED PLATE AND FIGURED CATHEDRAL, ETC., IN CUT SIZES.

Over 500 ft. super of all kinds.	Per ft.
Rolled plate, ¼ in.	6⅛
Rough cast double rolled, ⅛ in.	7⅛
Rough cast double rolled, ¼ in.	7⅝
Figure rolled, and Cathedral, white	7½
Figured rolled and Cathedral, tinted	10½
Rolled sheet	6
Reeded, Broad Reeded, Cross Reeded and Chevron Reeded, ¼ in. thick	11d.

Rolled plate is the same price as rough cast double rolled.

	Per ft. s.	d.
Wire Cast, ¼ in. thick	0	9½
Georgian Wired Cast	0	10½

HOLLOW GLASS BLOCKS.

	s.	d.	
P.B. 2—5½ in. × 5½ in. × 3⅛ in.	2	6	each net
P.B. 3—7½ in. × 7½ in. × 3⅛ in.	3	6	"
P.B. 32—7½ in. × 7½ in. × 3⅛ in.	3	6	"

Radiused Corner Brick to match up with—

P.B. 2	4	6	"
P.B. 3	6	0	"
P.B. 32	6	0	"

PAINTS, &c.

	£	s.	d.
Raw Linseed Oil (5 galls.) .. per gallon	1	3	3
Boiled Linseed Oil (5 galls.) "	1	3	7
Genuine White Lead (free kegs) cwt.	7	7	0
Genuine White Lead Paint (tins free) gall.	2	9	0
Genuine Red Lead .....cwt.	6	12	6
Putty (free packages) .....cwt.	3	0	9
Size, XD quality .....f/kn.	0	9	0

Turpentine substitute can be obtained and prices vary according to quality from 3/8 gallon upwards.

The Hall Mark AYGEE of Craftsmanship

IF IT'S GLASS OR GLAZING IT'S

AYGEE LTD.

ENGLAND'S LARGEST GLAZING CONTRACTORS

100, Westminster Bridge Road
LONDON, S.E.1. 'phone:
WATerloo 6314 (6 lines)

THE SCOTTISH BUILDER

NEW BUILDINGS

Baillieston.—Commercial garage proposed, for which the architect is Gabriel Balfour, 3, Bannercross-gdns., Garrowhill.

Dumbartonshire.—County Ed. Committee propose four schools at Vale of Leven, Rosneath, Arrochar, and West Bridgend, Dumbarton.

Glasgow.—Dining department, etc., proposed at Queen Victoria-st., for which the architect is John MacNab, 129, Bath-st., Glasgow.—Massey & Sons, Ltd., Hydepark-st., from plans by their own architects, to carry out additions and alterations at Buchanan-st., Glasgow.

Glasgow.—Extensions and additions proposed for Gilmour & Aitken, for which the architects are J. T. Thomson & MacCrae, 212, Bath-st., Glasgow.—Alterations and additions proposed for Landers, Ltd., of Edinburgh, at Sauchiehall-st., for which the architects are Hutton & Taylor, 5, India-st., Glasgow.

Larkhall.—Workshops, etc., for which the architect is J. Prentice, 76, Machan-rd., Larkhall.

Rutherglen.—Public swimming baths are to be erected as war memorial at £40,000.

Uddingston.—Additions and alterations to be carried out at St. John Catholic School, for which the architect is W. Watt, Albert-st., Motherwell.

Recent British Standards.

The British Standards Institution, 24, Victoria-street, London, S.W.1, have recently published the following British Standard Specifications: B.S.S. for Log Sheets for Steam Boiler Plants (No. 1374) and B.S.S. for Copper Tubes (Heavy Gauge) for General Purposes. No. 61 (Part I), 1947. Copies are obtainable from the Institution, price 2s. each, post free. Also published is Provisional British Standard 1391, "Performance Test for Protective Schemes Embracing Stoving Paints used in the Protection of Light-Gauge Steel and Wrought-iron against Corrosion." The price is 2s. 6d., post free.

SLATES.

First quality slates from Penrhyn or Portmadoc, carriage paid in full truck loads to London Rate Station.

Per 1,000 actual	£	s.	d.		£	s.	d.
24 by 12	59	8	0	18 by 10	30	19	6
22 by 12	49	14	9	18 by 9	27	2	0
22 by 11	44	17	3	16 by 10	26	17	9
20 by 12	43	11	6	16 by 8	21	3	6
20 by 10	39	9	6				

NOTE : Breakage in transit, purchasers' responsibility.

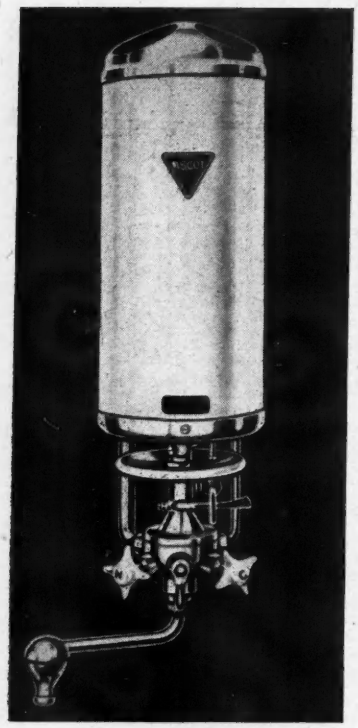
VARNISHES, &c.

		Per gallon. £	s.	d.
Oak Varnish	Outside	1	6	0
Fine do.	"	1	16	0
Fine Copal	"	1	15	0
Pale Copal	"	1	12	8
Floor Varnish	Inside	1	10	0
Fine Pale Paper	"	2	1	0
Hard Drying Oak	"	1	10	0
Fine Hard Drying Oak	"	1	12	0
Fine Copal Varnish	"	1	13	6
Best do.	"	1	16	0
Best Japan Gold Size	"	1	15	0
Best Black Japan	"	1	8	6
Brunswick Black		1	4	6
Berlin Black		1	8	6
Knotting (patent)		1	12	6
French and Brush Polish		1	18	6
Liquid Dryers in Terebene		1	8	6

TRADE NEWS

Instantaneous Gas Boiling Water Heater.

Ascot Gas Water Heaters, Ltd., 43, Park-street, London, W.1, announce their instantaneous boiling water heater which provides a constant supply of boiling water, a controlled supply of hot water, or a flow of warm water with a temperature rise between 40 deg. F. and 100 deg. F., according to the setting of the hot tap. These three services are provided by a temperature selector with three settings—"Boiling," "Hot" and



The "Ascot" "Selective" water-heater

"Warm." The main advantage of this type of heater is that it consumes only sufficient fuel to heat the water which is required to be used immediately, for the gas is alight only so long as the water is running and is extinguished the moment the tap is turned off. By means of the temperature selector, the housewife has at her hand an immediate supply of water from cold to boiling point, and whether her requirement be cold water from the main supply or boiling water (from which tea can be made straight into the tea-pot), all her needs are provided for.

Cement and Concrete Hints.

Practical and technical hints drawn from many years' specialised experience in tackling cement and concrete problems are embodied in a useful booklet, "Helpful Hints," recently issued by the manufacturers of Cementone Products, Messrs. Joseph Freeman, Sons and Co., Ltd., Cementone Works, Wandsworth, S.W.18. The booklet, which is well illustrated, includes chapters on cement paving, colouring cement floors, etc.

Change of Address and Title.

Southern Proprietary Holdings, Ltd., manufacturers and licensees of Dunbrik facings for East Anglia, have removed their head offices from 14, Pelham's-lane, Colchester, Essex, to Alphamstone, near Bures, Suffolk, where the works and quarries are situated, and the title of the company has been changed to the Alphamstone Brick and Tile Co., Ltd.

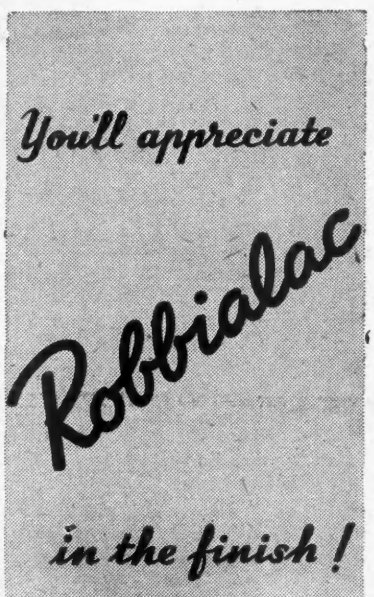
BUILDING WAGES IN NORTHERN IRELAND

GUARANTEED WEEKLY MINIMUM

THE Joint Council for the Building and Civil Engineering Industry (Northern Ireland) has adopted a scheme which is now in operation, providing for a guaranteed weekly minimum payment to workers in the industry. Under the scheme a worker who has performed actual work in any pay-week and has held himself available for work throughout the normal working hours of that week, is entitled to payment at his current hourly rate for half the time lost by him by reason of inclement weather during his normal working hours.

The total payments to the operative in respect of the normal working hours worked in that week, and any payments made under the scheme must together be not less than 32 times the hourly wage rate applicable to him in that week. Where a pay-week, during which an operative actually works on a job, is immediately followed by a complete pay-week during which he is prevented by inclement weather from performing actual work, he is entitled to payment of the guaranteed weekly minimum in respect of the latter week. During the next succeeding pay-week, or pay-weeks, however, if he is similarly prevented by inclement weather from working, he is not entitled to any payment under the scheme. In such circumstances he is to register at the Employment Exchange.

Certain changes have also been made by the Council in the rule governing the termination of employment. This now provides that two hours' notice shall be given by either employer or workman, terminating at the end of the normal working day, during the first six days of employment; thereafter termination of employment it shall be two hours' notice on either side, expiring on Friday.



FUTURE CONSTRUCTION

CONTRACTS OPEN

For some contracts still open but not included in this list, see previous issues. Those with an asterisk are advertised in this number. The dates at the heads of paragraphs are those for the submission of tenders; a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

BUILDING

OCTOBER 10.

†**Amesbury R.D.C.**—4 Airey houses at Figheldean. Bothams and Brown (L.), 32, Chipper-la., Salisbury. Dep. £2 2s. Tenders by October 24.

†**Amesbury R.D.C.**—8 houses at Figheldean. Bothams and Brown (L.), 32, Chipper-la., Salisbuy. Dep. £2 2s. Tenders by October 24.

OCTOBER 11.

Orpington U.D.C.—Repair and adaptation of "Darrick Wood" for "Half-Way" House. E. and S. Dep. £2 2s.

OCTOBER 13.

Bacup T.C.—Central conveniences. B.E. Dep. £2 2s.

***Bootle C.B.**—Major repair and conversion, including painting of Calveley Hall, Calveley, near Tarporley, Ches., into an approved school for girls. W. A. Harrison, B.E. and S.

***East Suffolk C.C.**—Canteen kitchen and dining-room at Bungay Secondary Modern School and same at Mendlesham School, near Stowmarket. E. J. Symcox (F.), County A., County Hall, Ipswich. Dep. £2 2s.

Solihull U.D.C.—Erection of Hatchford Brook Junior School and Ulverley Junior School. W. Maurice Mell, C.

Tees Conservancy Commissioners.—Two reinforced concrete jetties, Teesport. Messrs. Rendel, Palmer and Tritton, 55, Broadway, Westminster, S.W.1. Dep. £20.

OCTOBER 14.

Ches. C.C.—Kitchen and dining-room at Altrincham County Grammar School for Girls. E. M. Parkes (F.), County A., The Castle, Chester. Dep. £2 2s.

Ches. C.C.—Kitchen and dining-room at Cheadle Hulme Queen's-rd., County Primary School. E. M. Parkes (F.), County A. Dep. £2 2s.

Ches. C.C.—Kitchen and dining-room and removal of shelters at Rudheath Modern Secondary School, Northwich. E. M. Parkes (F.), County A. Dep. £2 2s.

Hatfield R.D.C.—24 houses at 3 sites. J. H. Parker (A.), North-pl., 82, Gt. North-rd., Hatfield. Dep. £2 2s.

Hatfield R.D.C.—12 Airey houses at Northaw-rd. West. J. H. Parker (A.), North-pl., 82, Gt. North-rd., Hatfield. Dep. £2 2s.

†**Norfolk E.C.**—Adaptation of "Colne Cottage" and "The Croft," Cromer, as a hostel for maladjusted children. F. G. Limmer (F.), Ed. Architect, Stracey-rd., Norwich. Dep. £2 2s.

Salop C.C.—Conversion of Stretton House, Church Stretton, into flats. County A. Dep. £2 2s.

Southwell R.D.C.—11 pairs of houses and 6 pairs of bungalows at Walesby-la. and Forest-rd., Allerton. S. Cooper, Housing A. and S., 8, Westgate, Southwell. Dep. £2 2s.

OCTOBER 15.

Okehampton R.D.C.—6 Airey houses and incidental works at Chagford. Leslie G. Bailey, E. and S., 3, Station-rd. Dep. £2 2s.

Okehampton R.D.C.—6 Airey houses and incidental works at South Zeal. E. and S. Dep. £2 2s.

OCTOBER 16.

Calne and Chippenham R.D.C.—8 Airey houses at Martins Croft, Colerne. Walter Rudman and Edwards, 32, Market-pl., Chippenham, Wilts. Dep. £2 2s.

Clun R.D.C.—8 houses with roads and sewers at Chirbury estate. N. P. Vaughan Pryce, C. Dep. £2 2s.

†**West Riding C.C.**—Erection of infants' school at Mansel-cres., Ecclesfield. County A., County Hall, Wakefield. Tenders by November 6.

OCTOBER 17.

Beds. C.C.—2 pairs of staff houses at Bedfordshire Sanatorium, Moorhanger Park. County A. Dep. £2 2s.

***Belper R.D.C.**—10 houses at Chapel-st., Kilburn. Building S. Dep. £2 2s.

Edinburgh T.C.—Work in various trades for erection of 184 houses at Inch housing development. Contract No. 1. City A.

OCTOBER 18.

***Calne and Chippenham R.D.C.**—Conversion of premises opposite Queen's Head Inn, Box, into public conveniences. Walter Rudman and Edwards, 32, Market-pl., Chippenham. Dep. £2 2s.

Durham County Standing Joint Committee.—6 police houses at Fir Tree, Wingate. County A., Court-la., Durham.

Garstang R.D.C.—12 Airey rural houses with road and sewers at Barrows-la., Gt. Eccleston; 8 traditional houses with site and sewer works at Garstang-rd., St. Michael's-on-Wyre. E. and S. Dep. £2 2s.

Haverhill U.D.C.—12 houses at Duddery Hill site. D. C. Denton-Smith (L.), 40, Regent-st., Cambridge. Dep. £3 3s.

Peel (Isle of Man).—6 houses at Bellby Spittal. Kay and Gill, architects, 22, Athol-st., Douglas. Dep. £2 2s.

Pembrokeshire E.C.—Canteen kitchen at Freystrop Voluntary School. Walter Barnett, Architect, County Offices, Haverfordwest.

***Wycombe R.D.C.**—Seven lavatory blocks and adaptation of 40 Nissen-type huts and sewerage works at Hazlemere Park Camp. J. M. Smith (F.), M.I.Mun.E., Architect to the Council, 28, High-st., High Wycombe, Bucks. Dep. £5 5s.

OCTOBER 20.

Chorley R.D.C.—8 Airey houses at Coppull and 32 at Eccleston. S.

Elham R.D.C.—4 pairs of Airey houses at "The Street," Hawkinge. C., Council Offices, Lyminge, Kent. Dep. £2.

Henley R.D.C.—34 Airey houses at 5 sites. C., 12, Hart-st. Dep. £3 3s.

OCTOBER 22.

***Newport (Mon.) C.B.**—Erection of Gaer Junior School. Boro' A. Dep. £2 2s.

OCTOBER 27.

Beckenham T.C.—Repairs to houses at Elmers-end estate (contract No. 2). B.E. and S. Dep. £2.

***Huntingdon E.C.**—Kitchen and dining-room for Eynesbury C. of E. School, St. Neots. T. H. Longstaff, County S. and Architect, Walden House, Huntingdon.

OCTOBER 28.

North of Scotland Hydro-Electric Board.—Construction and maintenance of Errochty Power Station. Sir Alexander Gibb and Partners, 43, Northumberland-st., Edinburgh, 3. Dep. £5.

OCTOBER 30.

Clutton R.D.C.—5 pairs of Airey houses at Chew Stoke and 5 pairs at Paulton. Thomas and Morgan and Partners, 23, Gellwastad-rd., Pontypridd. Dep. £3 3s.

OCTOBER 31.

***Caine and Chippenham R.D.C.**—Conversion of Beechfield Camp, Corsham, into temporary dwellings. Walter Rudman and Edwards, 32, Market-pl., Chippenham. Dep. £3 3s.

NOVEMBER 3.

***Harrow U.D.C.**—Adaptation of Isolation Hospital, Honeypot-la., for use as residential nursery. H. W. Rackham, F.S.I., Council Offices. Dep. £2.

MISCELLANEOUS

OCTOBER 14.

Malvern U.D.C.—Demolition of approx. 200 shelters and/or blast walls. S. and Water E. Dep. £2 2s.

OCTOBER 15.

Wolverhampton C.B.—Demolition of static water tanks and shelters. B.E. Dep. £2 2s.

OCTOBER 16.

St. Marylebone B.C.—Demolition and removal of approx. 90 brick and concrete domestic shelters. B.E. and S. Dep. £2 2s.

OCTOBER 30.

Ashford U.D.C.—Demolition of 55 surface shelters. S. and Waterworks E., 5, North-st. Dep. £2 2s.

PAINTING, ELECTRIC LIGHTING, MATERIALS, ETC.

OCTOBER 13.

Esher U.D.C.—Internal decorations to 45 houses at Beauchamp-rd., West Molesey. E. and S. Dep. £1 1s.

OCTOBER 15.

Alcester R.D.C.—External painting of 98 houses. Sanitary S., Council Offices.

OCTOBER 20.

Watford T.C.—Internal and external painting of Covered Market. B.E. and S. Dep. £1.

ROADS, SEWERAGE AND WATER WORKS

OCTOBER 10.

†***Amesbury R.D.C.**—Site works at Figheldean. Bothams and Brown (L.), 32, Chipper-la., Salisbury. Dep. £2 2s.

OCTOBER 11.

Hitchin R.D.C.—Roads and water main at Kings Walden and Ashwell. C. Dep. £2 2s.

OCTOBER 13.

Burnley C.B.—Asphalt surfacing of roads. B.E. and S.

Devizes T.C.—Roads, sewers, drains, etc., at Brickley-la. estate. B.S. Dep. £3 3s.

OCTOBER 14.

Dearne Valley Water Board.—Construction of brick buildings, concrete foundations and lagoons, etc., at Dearne Valley Colliery Co., Little Houghton, and reinforced concrete water tower at Danfield. T. M. Beswick, Water E., Waterworks Office, Broomhill, Wombwell, Yorks. Dep. £2 2s.

Malvern U.D.C.—Roads and sewers at Tanhouse-la. scheme. S. and Water E. Dep. £2 2s.

Thurrock U.D.C.—Roads and sewers at River View.

OCTOBER 15

Norman Cross R.D.C.—Supply and laying of approximately 11 miles of asbestos-cement trunk and distribution mains, etc. G. B. Kershaw and Kaufman, 1, Victoria-st., Westminster, S.W.1. Dep. £5 5s.

Poole T.C.—Sewerage at Foxholes-rd., etc. E. and S. Dep. £1 1s.

OCTOBER 16.

†***Wellington (Salop) R.D.C.**—Advance preparation of sites at High Ercall and Tibberton. Walter B. Bond, F.J.I., Colmore-chbrs., 3, Newhall-st., Birmingham, 3. Dep. £2 2s.

Wolverhampton C.B.—Improvement of Stafford-rd., and construction of service road. B.E. Dep. £2 2s.

OCTOBER 17.

Redditch U.D.C.—Making-up approx. 440 lin. yds. of road and footpaths at Basemore-la. E. and S. Dep. £2 2s.

Wanstead and Woodford B.C.—Surface water sewer at Snaresbrook-rd. B.E. and S. Dep. £5.

OCTOBER 20.

Shaftesbury R.D.C.—Roads and sewers at 3 sites. C. Dep. £2 2s.

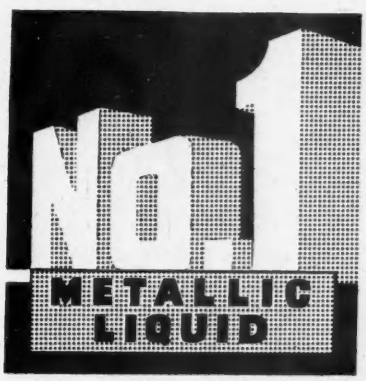
OCTOBER 22.

Tenterden T.C.—Roads and sewers at Appledore-rd., Chrubcote, Scheme No. 2. B.S. Dep. £2 2s.

THE BUILDER PRICES.

Glazed Bricks.

As we go to press, we are informed by the Enamel Association that owing to greatly increased costs of production the prices of glazed bricks are now subject to a percentage addition of 15 per cent. This addition is not incorporated in our prices given on page 386.



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SOLD UNDER GUARANTEE

from per gallon 5/- according to quantity

SPECIAL PRICES FOR LARGE CONTRACTS

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GEORGE LILLINGTON

AND COMPANY LIMITED

5/7 LONDON BRIDGE ST., S.E.1. HOP 0234-5

B75.65

OCTOBER 24.

Surrey C.C.—Concrete road at Surrey Farm Institute, Merrist Wood. County E. Dep. £2 2s.

OCTOBER 27

Gloucester U.D.C.—Construction and maintenance of approx. 28 miles of 27-in. dia. concrete pipe trunk sewer, etc. Lemon and Blizard, Lansdowne House, Castle-la., Southampton. Dep. £5 5s.

North Devon Water Board.—Reinforced concrete reservoir at Berrynarbor. Rofe and Raffety, chartered civil engineers, 3, Victoria-st., Westminster, S.W.1. Dep. £2 2s.

Sleaford U.D.C.—Roads and sewers at "Hillside" estate.

OCTOBER 28.

East Lothian Water Board.—Laying and jointing of approx. 1½ miles of asbestos cement pipes, 9 in. dia. G. H. Hill and Sons (Manchester), 51, Mosley-st., Manchester 2. Dep. £5 5s.

OCTOBER 29.

Bideford T.C.—Construction of concrete tube and cast-iron pipe sewers, manholes, etc., screen house, storage tank and cast-iron outfall sewer, etc. F. W. S. Stanton, M.I.C.E., 5, Victoria-st., Westminster, S.W.1. Dep. £5.

OCTOBER 31.

Warwick T.C.—Roads and sewers, etc., at Stratford-rd. site. B.E. and S. Dep. £3 3s.

NOVEMBER 3.

Niddervale R.D.C.—Water mains extensions for 3 villages. W. K. Rodwell, A.M.I.C.E., 44, Park Cross-st., Leeds, 1. Dep. £3 3s.

PUBLIC APPOINTMENTS

Full details of Public Appointments open will be found in the advertisement pages of this and previous issues.

GENERAL BUILDING WORK (LONDON)

Acton.—GARAGE.—London Co-operative Society, Ltd., Maryland-st., Stratford, E., propose garage in Gloucester-rd., W. Plans by Architects' Department, Gladdings-rd., E.12.

Addington.—OFFICE AND STORE.—H. E. Rundle, 2, Verdayne-ave., Shirley, proposes office and store in West-way.

Addiscombe.—WORKSHOP EXTENSION.—Proposed by Hollands and Blair, Ltd., at 98, Cherry Orchard-rd.

Barnes.—FLATS.—Watney, Combe, Reid and Co., Ltd., Stag Brewery, S.W.1, have had plans prepared for 4 flats, Mortlake.

Bexleyheath.—PRIMARY SCHOOL.—Plans have been prepared for a new primary school at Crook Log for the B.C.

Bromley.—FLATS.—B.C. propose 64 flats, London-rd Architects are Dalgliesh and Pullen (FF.), 9, Victoria-st., S.W.1. Cost, £80,000.

City of London.—OFFICES.—Kenneth Lindy and Partners, F.I.A.A.S., 24, St. Mary Axe, E.C., are the architects for new office premises to be erected by the Baltic Exchange on a site at 18, St. Mary Axe.

Croydon.—HOME.—B.C. to acquire No. 147, Auckland-rd., and adapt it as a home for the blind at an estimated cost of £6,000.

Croydon.—SCHOOLS.—B.C. propose a primary junior mixed school (480 pupils), primary infants' school (240 pupils) and nursery school (80 pupils) on land at New Addington, north of Wolsey-cres.

Croydon.—SCHOOL.—B.C. propose to purchase site of 12.45 acres in Selsdon Park-rd. for Heathfield Secondary Modern School.

Croydon.—SCHOOLS.—The B.C. are to invite tenders for the Heathfield Primary Junior Mixed School and Primary Infants' School for 320 and 160-200 pupils respectively, the total estimated cost being £124,536. Messrs. Selby and Saunders, 25, Victoria-st., S.W.1, are the quantity surveyors.

Croydon.—PURCHASE OF SITE.—Education Committee recommend the purchase of bombed sites Nos. 2 and 4, Bynes-rd., and Nos. 3-13, Sanderstead-rd. as addition to site of Purley Oaks School for a kitchen and dining-hall block.

Croydon.—SCHOOLS.—B.C. propose a primary junior mixed school (480 pupils), primary infants' school (240 pupils), a secondary modern school for boys (450 pupils) and a secondary modern school for girls (450 pupils) on 43 acres of the Fairchildes Estate.

Croydon.—TEMPORARY HOUSES.—15 temporary houses to be erected by B.C. on site in Regina-rd.

Croydon.—SCHOOL.—B.C. are negotiating for the purchase of two sites in Duppas Hill-rd., between Warrington-rd. and Duppas Hill-ter. for proposed new Archbishop Temple's Mixed Secondary Modern School.

Croydon.—NURSERY SCHOOL.—B.C. propose nursery school in Pawson's-rd.

Croydon.—SHOWROOM AND OFFICES.—R. S. Miles, 417, Brighton-rd., South Croydon, proposes to rebuild showroom, offices and flat over, with alterations.

Croydon.—FLATS.—The London Investment and Mortgage Co., Ltd., 39, Moorgate, London,

E.C.2, propose to convert 5, Harewood-rd., South Croydon, into three flats.

Croydon. — HOUSES. — Messrs. Hooker and Rogers, 29-31, George-st., propose rebuilding 4 houses at 38-44, Cumberland-rd.

Croydon.—HOUSES.—A. C. W. Britton, 34, Elliott-rd., Thornton Heath, proposes to rebuild 3 houses at Nos. 70, 72 and 74, Haslemere-rd.

Croydon.—GARAGE.—Croydon Model Laundry, Ltd., Tamworth-rd., W. Croydon, propose to erect a commercial garage at the rear of their premises.

Croydon.—FLATS.—Mrs. V. C. Gosney, The Hoo, Croham Manor-rd., South Croydon, proposes the conversion into 6 flats of "Edgemount," 24, Chichester-rd.

Croydon.—EXTENSIONS.—Carr Auto Sales, Ltd., 2, South End, Croydon, propose new first floor.

Croydon.—WORKSHOP EXTENSION.—Proposed by S. G. Leathwood, Leathwood Garages, Ltd., 203, St. James-rd., Croydon.

Croydon.—THEATRE ALTERATIONS.—Metropolitan Music Halls (Croydon), Ltd., Eros House, 29-31, Regent-st., S.W.1, propose internal alterations to Empire Theatre, 94, North End, Croydon.

Croydon.—FACTORY EXTENSION.—Nevelin Electric Co., Ltd., Purley-way, Croydon, propose extension to factory at corner of Trojan-way and Purley-way.

Croydon. — THEATRE ALTERATIONS. — Davis Theatre (Croydon), Ltd., 69-77, High-st., Croydon, propose alteration for dressing accommodation at Davis Theatre.

Finchley.—FLATS AND HOUSES.—Work on 102 flats and 60 houses on the Elmshurst estate is scheduled to commence in 1948. The architect is R. A. Horsman, A.R.I.B.A., A.M.T.P.I., Chief Architect, Borough Housing and Town Planning Department, The Avenue, N.3. Roads and sewers now being laid, contractors being Messrs. E. Knifton, Ltd., Langhedge-la., N.18, under direction of B.E. and S., 294, Regent's Park-rd., N.3.

Hackney.—FLATS.—Plans by Val Myer, Hart and Willis, 22, Grosvenor-cres.-mews, S.W.1, for 93 flats, Stoneham-rd.

Hammersmith.—REPAIR SHOP.—United Dairies, Ltd., propose the erection of single-storey car wash and repair shops at London Wholesale Dairies, Ltd., Wood-la., W.12.

Hammersmith.—TEMPORARY GARAGES.—An application by Mr. F. J. Bullen to the L.C.C. for the erection of temporary garages in connection with a haulage contractor's business at 25-31, Bramley-rd., W.10, has been approved.

Hammersmith.—EXTENSION.—H. C. Smart and Partners propose one-storey extension at 4 and 5, Hythe-rd., N.W.10, for engineering workshop and boiler-house.

Hammersmith.—ALTERATIONS.—J. Lyons and Co. propose alterations at St. Mary's Training College, Brook Green, W.6.

Hammersmith.—HOSPITAL ALTERATIONS.—Mr. F. R. Jelley, F.R.I.B.A., 15, Upland-rd., Sutton, is the architect for alterations for the rearrangement of dispensary and erection of an external ether store at West London Hospital, Hammersmith-rd., W.6.

Hammersmith.—OFFICE EXTENSION.—Messrs. T. C. Jones and Co. have received approval of an application made to the London County Council for the extension to office buildings at 58, Wood-la., W.12.

Hammersmith.—GARAGE.—The L.P.T.B. are to rebuild their garage in Wells-rd. on an extended site with a frontage to Sulgrave-rd.

Hammersmith. — TEMPORARY GARAGES. — Six temporary garages are to be erected in the grounds of Queen Charlotte's Maternity Hospital.

Hammersmith.—EXTENSION.—It is proposed to erect a single-storey extension to Austin's Garage over the site of the former laundry premises in Springvale-ter., W.14. An application by Mr. A. L. Woodward has been approved by the L.C.C.

Hammersmith. — SELF-CONTAINED FLATS. — B.C. have purchased the freehold interests of Nos. 54, 56 and 60, Lakeside (Rayleigh)-rd. as part of the Council's programme for the conversion of properties into self-contained flats. B.E. and S. has been requested to submit estimate and proposals for the project.

Leyton.—HOUSES.—Manor Charitable Trust, 41, Threadneedle-st., E.C.2, propose 4 houses on land between 81 and 97, Matlock-rd.

Leyton.—HOUSES.—Subject to conditions imposed by the B.C., Messrs. H. E. Levi and Co. have been granted permission to erect not more than 6 houses on two plots of land adjoining 79 and 81, Matlock-rd.

Leyton.—WORKSHOPS.—Schori Metallising Process, Ltd., North Circular-rd., propose to erect two workshops at 37a, Hainault-rd.

Leyton.—CANTEEN.—Regal Dry Cleaners, Ltd., have obtained permission to submit plans for a canteen adjoining the factory in Woodhouse-rd.

Muswell Hill.—REBUILDING.—Of 20 houses, Wilton-rd., N.W., proposed. Architects are Moiret and Wood, 21, Willifield-way, Hampstead.

New Addington.—HOUSES.—Croydon B.C. propose to erect 98 houses on New Addington Estate adjacent to Overbury-cres. and Lodge-la.

Norbury.—HOUSES.—27 houses are to be erected by Mitcham Council at Pollards Hill at an estimated cost of £33,500.

Norbury.—HOUSES.—B.C. have approved application by B. Utting, Granville-gdns., Green-la., S.W.16, for 22 houses and 20 garages in Granville-gdns.

Oxford-st.—REBUILDING.—C. and A. Modes, Ltd., drapers, North-row, Marble Arch, W.1, are negotiating with L.C.C. regarding the rebuilding of departmental stores, 376-384.

Oxford-st.—ALTERATIONS.—At 159, Oxford-st. and 33, Poland-st., W.1, for J. Lettman. Architect is Thomas Braddock (F.), 14, Great Smith-st., S.W.1.

Shirley. — FLATS. — "The Dormy House," Shirley Park Hotel, Shirley-rd., is to be converted into flats by Addiscombe Garden Estates, Ltd., 3, Addiscombe-rd., Croydon.

Southfields.—HOUSES.—12 houses at Skeens-hill, S.W. Architects are Sir John Brown, A. E. Henson and Partners, 117, Sloane-st., S.W.1.

South Norwood.—BATHS.—Croydon B.C. are concluding negotiations for the purchase of a site for proposed South Norwood Baths. The site is bounded by Portland-rd., Enmore-rd. and Denmark-rd.

Streatham. — RECONSTRUCTION. — Amesbury Press, Ltd., 49, Sunnyhill-rd., Streatham, S.W.16, have acquired premises at 219, Streatham High-rd. and extensive reconstruction works are to be carried out.

Sydenham.—SCHOOLS SITE.—Croydon B.C. propose acquisition of 18a, Russell-rd. and buildings at rear to form part of proposed site for new Sydenham Primary School.

Temple.—REPAIRS.—To New Court, E.C.4. Plans by Waterhouse and Ripley, Staple Inn-bldgs., Holborn, W.C.1.

Walthamstow. — GARAGE. — F. Attwood (Haulage), Ltd., 961, Forest-rd., E.17, propose garage and offices, 257-273, Wood-st., E. Architect is A. E. Mallett, F.I.A.S., 3, Commercial-st., E.1.

Wandsworth. — RECONSTRUCTION. — At factory, 96, Garratt-la., S.W., of Joseph Freeman, Sons and Co., Ltd. Architect is P. A. W. Roffey (F.), 1, Putney-hill, S.W.15.

Wandsworth.—REBUILDING.—Of 18 flats, Rayleigh House, Larkhall Estate, S.W. Architects are Louis de Soissons and Partners, 21, St. John's Wood Park, N.W.8.

Wanstead.—HOUSES.—Wanstead Slip Property Owners' Association propose to erect approximately 60 houses on a site not yet selected.

Wembley.—FLATS.—Plans by Shaw and Lloyd, 74, Great Russell-st., W.C.1, for 22 flats, Harrow-rd.

White City.—HOUSING.—L.C.C. propose to make a compulsory purchase order, so far as it might be necessary, for the acquisition for housing purposes of the site adjoining its White City Estate. The site is bounded by the Territorial Barracks, White City-rd., the Wood-la. and Metropolitan Railway, Queen's Park Rangers' football ground, and houses bordering on to Loftus-rd., Stanlake-rd., and Frithville-gdns. The total area is 26 acres.

Wood Green.—GARAGE, ETC.—Tottenham and District Gas Co. propose garage and stores at Woodall House, Lordship-la.

Wood Green.—EXTENSION.—Middlesex Education Committee propose dining-room and kitchen extensions at White Hart-la. primary school.

Wood Green.—CONVERSION.—An application by Mr. T. H. Mayer (for Messrs. Marks and Spencer, Ltd.) for the conversion of No. 44, High-rd., for use as offices, has been approved.

Wood Green.—FLATS.—Messrs. Vine and Vine (AA.), 12E, Tudor-chbrs., N.22, have been asked to prepare a plan for 15 flats.

Wood Green.—FLATS.—A preliminary layout for the Vincent-rd. site, providing for the erection of four blocks of flats, has been prepared for the B.C. by Messrs. Vine and Vine (AA.), 12E, Tudor-chbrs., N.22.

Wood Green. — FLATS. — Plans, revised in accordance with suggestions made by the Min. of Health, have been completed for flats at Bounds Green. B.E. and S. also reports that plans for the development of the Pellatt-gr. site have been submitted to the Ministry for approval.

(PROVINCIAL)

Abergele.—North Wales Society for the Blind, 204, High-st., Bangor, propose additions at £15,000 to their Llys Onnen Home. Plans by F. W. Charity (F.), 14, Howick-pl., Victoria-st., S.W.1.

Bury.—T.C. approved:—School site, Hardmans-in-the-Fields; nursery block at Brandlesholme Children's Home.—E.C. propose Secondary school at Seedfield at £112,500.

Cardiff.—Plans prepared by Harry Teather & C. F. Jones (FF.), Andrews-bldgs., Queen-st., Cardiff, for rebuilding premises at 151, 152, and 153, Bute-st., Cardiff.

Carlisle.—E.C. propose kitchen dining-room at Fusehill-st., to plans by P. Dalton, City E.

Chelmsford.—Application for £20,000 licence for building block of 12 flats at Brierley-pl., London-rd., to plans by E. R. Collister, 7, London-rd., Chelmsford.

Coventry.—E.C. propose Primary school at Whoberley.

Dagenham.—Allworth Estates, Ltd., 84, Camden-rd., N.W.1, propose showrooms and offices at 270-272, Heathway. Plans by George Coles (F.), 40, Craven-st., Strand, W.C.2.

Epsom and Ewell.—T.C. propose flats for the blind at Swail House site, Ashley-rd.

Essex.—West Ham B.C. to acquire land at Laindon and Pitsea for erection of 3,500 houses.

Gillingham.—Trustees Savings Bank, Ltd., to carry out alterations at 58, Balmoral-rd., to plans by Read & McDermott, High-st., Rochester, Kent.

Hull.—Factory and offices to be erected at Stoneferry estate, Clough-rd., for Scrutton, Stanton & Co., Ltd., 79-80, Leonard-st., Hull. Plans by R. G. Clark, Bedford-chbrs., Scale-la., Hull.

Hyde.—Cheshire E.C. propose Junior school at Harbour Farm estate and Infants' school at Hickenfield estate.

Kendal.—Lancs E.C. propose special residential school at Sedgwick.

Luton.—E.C. to proceed with erection of Manor Farm Secondary Modern, Chauel End Secondary Modern, and Riddy-la. County Modern Schools, at £114,000, £137,000, and £137,000, respectively. Plans by F. Oliver, B.S.

Lytham St. Annes.—Lancs E.C. propose extensions at Technical school.

Manchester.—E.C. approved plans for submission to M. of E. for St. Peter's R.C. Voluntary School at Wythenshawe and extensions at St. Cuthbert's R.C. School, Withington.

Middlesbrough.—Garbutt, Archibald & Archibald, Albert-rd., Middlesbrough, are architects for 66 houses at Heythrop-dr. for E. T. Sweeting & Son, builders, Middlesbrough, and for garage, workshop and offices at Longlands-rd. for H. Simpson, haulage contractor.

Middlesbrough.—Kitching & Co., 21, Albert-rd., Middlesbrough, prepared plans for rest rooms at Suffield-st. for Greco Bros.; Matkin & Hawkins, Barclays-chbrs., Fawcett-st., Sunderland, are architects for alterations to factory at Cargo Fleet-la. for North-Eastern Trading Estates, Ltd.

Newcastle-on-Tyne.—E.C. propose Primary school at Blakelaw estate at £98,000. Plans by Education Architect, Northumberland-rd., Newcastle-on-Tyne.

Newport (I.O.W.).—Isle of Wight Farmers' Trading Society, Ltd., to carry out alterations and additions at warehouse, Sea-rd. Plans by R. A. Thomas (F.), Northern-rd., Cosham, Portsmouth.

Northumberland.—C.C. to acquire site at Lowick for Junior and Infants' school.

Northwich.—Board of Governors of Victoria Infirmary propose rehabilitation centre at £25,000. Plans by Wright & Hanlyn (A.), Patten-chbrs., Winmarleigh-st., Warrington.

Norwich.—Coleman & Co., Ltd., Prince of Wales-rd., propose factory at Foundry Bridge.

Oldham.—E.C. propose dining-rooms and kitchens at Higginshaw and Richmond schools.

Oxford.—Governors of Radcliffe Infirmary agreed to erection of nurses' hostel, canteen, office block and common room. Plans by Collcutt & Hamp, 7-8, Queen-st., High Wycombe.

Spenborough.—U.D.C. propose houses at Gomersal.

Stafford.—Staffs C.C. propose alterations at Rotherwood, Rowley Park, for children's home at £7,900.

Stockport.—E.C. propose Primary school at Nangreave-rd., Heaviley.

Stockton-on-Tees.—Crawford & Ellis, 10, Market-pl., Bishop Auckland, prepared plans

for factory (No. B.T. 20/5) at North Tees Trading Estate.

Torquay.—Fullers, Ltd., Hammersmith, W.6, acquired site, The Rotunda, Torwood-st., for restaurant and shops. Plans by Eugene C. Kent (F.), Gray's Inn-rd., Holborn, W.C.1.

Walsall.—Jos. Dixon Tool Co., Albewell-st., propose factory at Bolt-la. Sanders & Proffitt, architects, 145, Lichfield-st.

West Bromwich.—Handsworth Woods Estates, Ltd., 3, Waterloo-st., Birmingham, propose to develop for housing the Gorse Farm estate. Plans by E. B. Pierce, M.Inst.R.A., 167, Church-rd., Birmingham 26.

Wigan.—T.C. propose developing land at junction of Woodhouse-la. and Beech Hill-la. for housing estate.

TENDERS

* **Denotes *accepted*.**
† **Denotes *provisionally accepted*.**
‡ **Denotes *recommended for acceptance*.**
§ **Denotes *accepted subject to modification*.**
¶ **Denotes *accepted by H.M. Government departments*.**

Accrington.—250 additional Easiform houses, for T.C. H. Sanderson, B.S.: *John Laing & Son, Ltd., Dalston-rd., Carlisle; 58 bungalows for aged at Milnshaw: *A. Spencer, 31, Bold-st., Accrington, £52,655.

Ashbourne.—32 houses, road and sewers, etc., at Clifton, for R.D.C. J. H. Wheeldon, S.: *Tideswell Bros., Basford Works, Lime Kiln-la.; 20 Airey houses on two sites: *Evans & Co. (Builders), Ltd., 6, Longport-rd., Longford (both of Stoke-on-Trent).

Aylesbury, Bucks.—Four houses at Brill, for R.D.C.: *Jennings & Prosser, Brill, Thame, Oxon, £4,422 (subject to M.H. approval).

Banbury, Oxon.—50 houses at Hightown estate, for Great Western (Banbury) Housing Association: *W. & A. Collisson, 32, Britannia-rd., Banbury.

Beds.—Wireless transmitter building, for C.C.: *H. Lacey & Sons, Ltd., Luton, Beds.

Birmingham.—Transport depot, with separate administrative block at Ridgeacre-rd., Quinton, for Transport Department, Congreve-st. Gateley & Parsons, architects, Dover-st., Coventry: *C. Bryant & Son, Ltd., 65, Whitmore-rd., Birmingham.

Blaydon-on-Tyne.—Painting 208 houses, for U.D.C.: *Joseph Cass, Blaydon-on-Tyne, £1,144.

Bradford.—Six houses at Middle-la., for T.C.: *E. Ambler, Clayton Joinery Works, Clayton, Queensbury, £7,429.

Bridgnorth.—Pit-head baths at Alveley Colliery for Miners' Welfare Commission, Ashley House, Ashstead, Surrey. C. G. Kemp (F.), architect, 5, Old Queen-st., Westminster, London, S.W.1: *John F. Hughes, Ltd., 43, Lichfield-st., Wolverhampton, £51,731.

Chatton (Northumberland).—Addition of domestic offices and plumbing work at Fowberry Tower: *J. & W. Lowery, Corporation-st., Newcastle-on-Tyne, £3,675.

Chester.—Works, for E.C.:—Construction of (a) kitchen at Lache school; (b) kitchen and dining-hall at Newton school, and (c) kitchen dining-hall and four additional classrooms at Blacon school: ‡W. Williams, Sons & Co., Ltd., Chester, £9,879 (subject to M. of E. approval).

Chorley.—32 houses at Highfield site, for T.C. H. D. S. Lowe, B.S.: ‡Baxendale Bros. (Chorley), Ltd., Victoria-st. Saw Mills, Chorley.

Darlington.—Canteen at Crown-st.: *J. W. Richardson, Quebec-st., Darlington; six houses at Minors-cres.: *J. W. Richardson, Quebec-st., Darlington.

Derby.—Houses for T.C. 126 at Chaddesdon Hall estate: *Direct labour, £160,166; 70 at same estate, *Morleys (Builders), Ltd., £87,786; 30 at Wood-la. estate, Morleys (Builders), Ltd., £38,290; 100 steel houses at Wood-la. estate, *Gee, Walker and Slater, £1,312 each; 20 at Francis-st., *R. Smith, £1,085 each.

Driffield.—Dining-room and kitchen at Bridlington-rd., for East Riding E.C.: *A. Leason & Son, 13, Middle South-st., Driffield.

Durham.—Painting and renovations at Neville's Cross College, for C.C.: *E. Pye & Sons, Bishop Auckland, £5,497.

Eccles.—Extensions at Bentcliffe Chemical Works, Salter-la., for Lankro Chemicals, Ltd. Ivor E. Meredith, architect, 7, Green Bank-av., Hall Green, Birmingham: *W. Snape & Son, Ltd., Clifton House, Clifton-rd., Eccles.

Frome.—Houses for R.D.C.: Eight at Coleford: *Plummer & Hockey, Midsomer Norton; six at Wanstrow; *J. Biddiscombe, Wanstrow.

Frome.—28 houses at Broadway site, for U.D.C. B. H. Parkes, S. Quantities by Dadson & Butler: *W. & J. Channing, Ltd., Highbridge-rd., Burnham-on-Sea.

Gainsborough.—58 Tarran-Newland prefabricated houses, for U.D.C. S. Algar, S.: †Tarran Building Industries, Ltd., Clough-rd., Hull, £73,952.

Gateshead.—Alterations to factory at Princes Way, for M.O. Valves, Ltd. Architects: Cackett, Burns Dick & MacKellar, 21, Ellison-pl., Newcastle-on-Tyne: *Hadden & Hillman, New Bridge-st., Newcastle-on-Tyne.

Guildford.—Works for R.D.C.: 19 Airey houses at Almshouse Meadow, Compton: *W. T. Jackson & Sons, £19,204; 14 additional dwellings at Pound Hill, Wood-st.: *J. McNulty, £13,455.

Hawarden.—26 Airey houses at 4 sites, for R.D.C. G. I. Reidford (L.), architect. *Macnee and Partners, Ltd., 239, Balham High-rd., London, S.W.17, £35,136 (subject to Welsh Board of Health approval).

Hoddesdon, Herts.—Power station at Rye House, for Northmet Power Co., Southgate, N.14: *Walter Lawrence & Son, Ltd., 31, Sun-st., E.C.2, for foundations and superstructure.

Hornsea.—Dining-room and kitchen at Brandesburton County Primary school, for East Riding E.C.: *A. J. Darnley, 68, Spring-st., Hull.

Hyde.—Alterations and reinstatement of workshops and stores buildings at Riding-la., for J. Adamson & Co., Ltd.: *Fowden, Mottram & Smith, Union-st. Works, Hyde.

Ipswich.—Six shops with living accommodation at Rushmere Hall Farm estate, for T.C.: ‡G. A. Kenney & Sons, Ltd., £16,123 (subject to M.H. approval).

Ipswich.—50 houses at Whitton White House estate, for T.C.: *R. G. Seaman (8); *Randall & Williams (12); *G. W. & H. C. Knights (14); *V. A. Marriott, Ltd. (16). Total cost, £68,885 (subject to M.H. approval).

Kirkby-in-Ashfield.—16 houses at Skegby-rd., for U.D.C. L. Dodsley, S.: *W. J. Bains & Sons, Factory-rd., East Kirkby, Notts, £13,849.

Liverpool.—Works for E.C. Sir L. H. Keay (F.), C.A., Blackburn-chbrs., Dale-st., Kingsway. Reinstatement of war damage at Liverpool Collegiate School: *J. Tomkinson & Co., Ltd., 22, Roscommon-st., £3,195; dining-room and kitchen at St. Clare's R.C. school: *Norwest Construction Co., Ltd., Ruthven-rd., Litherland (both of Liverpool).

Liverpool.—Works, for T.C.:—20 houses with garages and 40 flats at Allerton-rd./Heath-rd. estate: *The Peak Construction Co., Ltd., 49, Hamilton-sq., Birkenhead, £74,968 (subject to M.H. approval); erection and completion of and addition to Herbert-st. Secondary school for boys: *W. A. Gale, Ltd., 151, Linacre-la., Liverpool 20, £76,500 (subject to M. of E. approval).

L.C.C.—Contract exceeding £2,500 in value placed by L.C.C. during period ended September 24: Reinstatement after fire damage of Westminster Technical Institute (Abbey, Westminster), H. T. Oliver & Sons, Ltd., 371, Clapham-rd., S.W.9.

London.—Oil blending factory at Bradfield and Knights-rds., Silvertown, E.15, for Vigzol Oil Refining Co., Ltd. E. H. Firmin (A.), architect, 111, Park-st., W.1: *Percy Bilton, Ltd., 111, Park-st., W.1.

London.—Piling and foundation works, in connection with rebuilding of Silvertown Mills, E.15, for Spillers, Ltd., 40, St. Mary Axe, E.C.3. L. G. Mouchel & Partners, consulting engineers, 36, Victoria-st., S.W.1: *Holloway Bros. (London), Ltd., Bridge Wharf, Millbank, S.W.1, £22,835.

London.—Rebuilding houses at 28-40, Broadfield-rd., Lewisham, S.E. Wetherall, Green & Smith, surveyors, 22, Chancery-la., W.C.2: *Ainslie & Son, 201, Lee High-st., S.E.13.

London.—Rebuilding "C," "D" and "E" warehouses at Cotton's Wharf, Tooley-st., S.E.1, for Hay's Wharf (Proprietors of), Ltd., Tooley-st., S.E.1. H. J. M. Skidmore, surveyor: *F. & F. H. Higgs, Ltd., Station Works, Hinton-rd., Herne Hill, S.E.

London.—Repairs, etc., at Academy Cinema, Oxford-st., W.1. Alister G. MacDonald (F.), architect, 46, Lincoln's Inn-fields, W.C.2: *Howard Farrow, Ltd., 1, Russell-parade, Hendon, N.W.4.

¶London (Admiralty).—*Gosport, R.N. Air Station*, Resurfacing of runways, etc., Allweather Mechanical Grouting Co., Ltd., 47, Victoria-st., London, S.W.1.

¶London (Admiralty).—*Shotley*: Dismantling fuel tanks, Simmons & Hawker, Ltd., Southdown Works, Point Pleasant, Wandsworth, S.W.18.

¶London (Air Ministry).—Contracts to value of £500 or over for the week ended September 27:—

General maintenance work: Bosworth & Wakeford, Ltd., Daventry, Northants; Wm. Harbrow, Ltd., London, S.E.16. Painting work: Wm. T. Nicholls, Ltd., Gloucester. Electrical work: Standard Telephones and Cables, Ltd., London, N.11. Civil engineering work: Geo. Wimpey & Co., Ltd., Uxbridge, Middlesex. Building work: Haymills (Contractors), Ltd., London, W.5.

¶London (M.O.W.).—Contracts placed by M.O.W. for week ending September 25:—

London: T.O.B., Kidbrooke. Reroofing and flooring. Helical Bar Co., 82, Victoria-st., S.W.: St. James's Park, Resurfacing roads, Mowlem Paving Co., 19, Grosvenor-pl., S.W.; Pretoria-rd. school, West Ham, Temporary school buildings, Edward W. Smith, 1-3, Western-rd., Romford, Essex. *Ayrshire*: Persian Sands, New Milns, Seco houses, D. R. Gilchrist, 25, Greenlaw-dr., Paisley. *Cambridge*: Hereward school, March, Temporary classrooms, W. Sindall, Gloucester-st., Cambridge. *Cumberland*: Kershopefoot, Airey houses, Geo. Wimpey & Co., Teams-st., Dunston, Gateshead-on-Tyne; Sleetbeck, Airey houses, Geo. Wimpey & Co., Teams-st., Dunston, Gateshead-on-Tyne. *Devon*: North Town school, Taunton, Temporary school buildings, F. E. Small, Priory, Taunton, Devon. *Dumbartonshire*: Goldenhill, Duntocher, Tarran houses, Dougall & Co., Ltd., Glasgow-rd., Dumbarton. *Essex*: Rodden Court Secondary school, Harold Wood, Additional classrooms, Edward W. Smith, Western-rd., Romford. *Glamorgan*: Tirdeunaw school, Morriston, Swansea, Kitchen and dining-room, J. Harris, 60, Roger-st., Trobeoth, Swansea. *Inverness*: Calloden Primary school, Kitchen and dining-room, Donald Sinclair, 10, Boyndie-st., Banff. *Isle of Lewis*: Plasterfield, Stornoway, Drainage, water services, etc., Scottish Tarmacadam & Asphalte Co., Bilbao-st., Glasgow, C.5. *Kent*: St. Werburgh C. school, Frindsbury, Temporary school buildings, Dudley Coles, Ocean House, Gt. Tower-st., E.C.3. *Lanarkshire*: Branchall-rd., Cambusnetham, Motherwell, Arcon houses, McLean & Co., 73, Glasgow-rd., Wishaw; Thornhill, Blantyre, Tarran houses, Modern Homes, Ltd., 4, Melville-cres., Edinburgh 3. *Lancs*: Chorlton Park Secondary school, Manchester, Hutted accommodation, Jones & Craig, 11, Brookleigh-rd., Withington, Lancs; Orell Lodge site, Bootle, Kitchen, scullery and dining-room, Norwest Construction Co., Litherland, Liverpool 21; Parochial school, Lymm, Hutted accommodation, E. E. Coleman, Waverley-rd., Sale; M.N/I., Hyde-rd., Denton, Temporary office building, H. J. R. Bradshaw, Hill-la., Blackley, Manchester.

Middx: N.P.L., Teddington, Alterations, Kings, Ltd., 107, Munster-rd., Teddington; T.O.B., Canons Park, Fitting Mastic flooring, Associated Asphalte Co., Ltd., 18, Queensbury-pl., S.W.7. *Monmouthshire*: Llanwern, Telephone receiver station, J. H. Williams & Son, Kelvedon-st., Newport, Mon. *Rosshire*: Fortrese Academy, Dining-room and kitchen, Donald Sinclair, 10, Boyndie-st., Banff. *Staffs*: Horden-rd. Senior school, Wolverhampton, Kitchen and dining-room, K. S. Rock & Co., Ltd., Temple-st., Wolverhampton. *Surrey*: Down Farm, Ewell, Removal of defence works and reinstatement of ground, Sharwood & Sharwood, Broadway, Uxbridge-rd., Hayes; Tolworth school, Fullersway, Temp. school buildings, Lispus & Son, 7, Kingston-hill, Kingston-upon-Thames. *Sussex*: Glemsford Flax Factory, New retting tanks, Galbraith Bros., Diss, Norfolk; Chailey R.D.C., Temporary houses, Ringmer Building Works, Ringmer, Lewes. *Worcs*: M.O.W. Supply Dept., Sommerfield, Kidderminster, Romney huts, Eadie & Co., 29, Waterloo-rd., Wolverhampton. *Yorks*: South End Junior school, Thorne, nr. Doncaster, Demolish A.R.P. shelters, erect kitchen and dining-room, King & Son, Thorn-rd., Edenthorpe, Doncaster; Park-rd. Infants' school, Mexborough, Kitchen and dining-room, Jacques & Greaves, Ltd., Springwell-la., Doncaster; Leeds, C.B. 9, Aluminium houses, Higgs & Hill, 33, St. Paul's-st., Leeds 1; Kingston-upon-Hull, C.B. (Con. 14), Temporary houses, W. & J. Glossop, Annisfield House, Hipperholme, Halifax; High Green Modern school, Greengate-la., Ecclesfield, Temporary school buildings, Meecon, Ltd., Old, Sheffield-rd., Rotherham; Wath-on-Dearne Grammar school, Kitchen and dining-room, Jacques & Greeves, Ltd., Springwell-la., Doncaster.

¶London (War Dept.).—Works contracts placed by War Dept. for week ended September 20:—

Yorks: Building work: Samuel Owst & Son,

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Hull. *Ches.*: Building work, Worthington's (Contractors), Ltd., Liverpool. *Pembroke*: Miscellaneous work, S. G. Thomas & Son, Pembroke Dock. *Central London*: Miscellaneous work, Goddard & Phillips, Ltd., London, N.W.5. *Essex*: Electrical heating installation, Atozed (London), Ltd., London, S.W.1. *Kent*: Painting work, J. J. Hamilton, Cowley, Oxon. *Middx.*: Heating installations, Heat and Air Systems, Ltd., London, S.W.1.

Macclesfield.—Office buildings at Black-st., for Ministry of National Insurance M.O.W.: *Cooper Bros. & John Clayton, Ltd., Catherine-st., Macclesfield (estimated cost, £25,000).

Manchester.—Additions to Columbarium at Crematorium, Barlow Moor-rd., Chorlton-cum-Hardy, for Manchester Crematorium, Ltd. J. H. Sellers & Son (F.), architects, 78, King-st.: *G. & W. Smith (Builders), Ltd., Hyde-grove, Plymouth-grove, Chorlton-upon-Medlock, Manchester 13.

Manchester.—Reinstatement of war damage and additions for sick bay, conveniences, etc., to school, at Walker's Croft and Fennel-st., for Cheetham Hospital and Library, Board of Governors. Thos. Worthington & Sons (FF.), architects, 178, Oxford-rd., Chorlton-upon-Medlock: *Thos. Scott & Co. (Manchester), Ltd., 12, Atherton-st., Quay-st., Manchester 3.

Manchester.—Seven shops, four flats and seven garages at Greenwood-rd., Northenden, for Wythenshawe Estate Special Committee: *S. V. Broadbridge, Ltd., Manchester (subject to M.H. approval).

Newcastle-on-Tyne.—Conversion of "Eastcliffe," Elmfield-rd., Gosforth, into hostel for student teachers, for E.C.: *J. G. Spotswood, Ltd., 2, Heaton-rd., Newcastle-on-Tyne.

Northampton.—100 precast concrete houses on selected site, for R.D.C. R. J. Miller, S.: *British Cast Concrete Federation, Ltd., Amhurst-rd., London, W.13.

Northumberland.—Canteen kitchen at Duddo C. of E. school, for E.C.: *J. Patterson, Branxton, Berwick.

Poplar.—Construction of wharf, circulating pumphouse; intake and discharge system at Poplar Generating Station, Brunswick Wharf: ‡Kirk & Kirk, Ltd., 287, Upper Richmond-rd., S.W.15, £316,075.

Retford.—Dining-room and kitchen at Hallercroft school, for Notts E.C. E. W. Roberts (F.), County A., County Hall, Nottingham: *W. Neal & Son, Bridge Works, Bridge Gate, Retford, Notts.

Rothwell.—64 houses at Bondfield-ter., Nethley, for U.D.C. C. A. E. Snell, S.: *Dunhill Bros., 387, York-rd., Leeds 9, £58,212 (54); *G. Fothergill & Son (Builders), Farnlea, Leeds-rd., Robin Hood, Wakefield, £10,490 (10).

St. Marylebone.—64 flats at Cochrane-st., for St. Marylebone Housing Association. Louis de Soissons & Partners, architects, 21, St. John's Wood-park, N.W.8: *C. Miskin & Sons, Ltd., Romeland, St. Albans.

Salford.—Repairs, etc., to roof at Central Transport Depot, for T.C. W. A. Walker, C.E.: *Industrial Engineering Co., Ltd., Albemarle-st., London, W.1, £9,064.

Scarborough.—Alterations to premises at Queen-st., for Manufacturers' Supplies, Ltd. Wilkinson & Smith, architects, Martins Bank-chbrs., Scarborough: *Thomas S. Gibson, Scalby, nr. Scarborough.

Taunton.—Conversion of huts into dwelling accommodation at Sandhill Park Camp, for R.D.C.: *Stansell & Son, Taunton, £10,739.

Tynemouth.—10 houses for old people at West Chirton "B" site, for T.C. Plans by B.E., 19, Howard-st., North Shields: *S. Storer, Langley-rd., North Shields.

Watford.—14 houses at Phillimore-pl., Willoway, Radlett, for R.D.C.: *Harthall Estates, Ltd., £17,151 (subject to M.H. approval).

Wells (Somerset).—Factory, offices, etc., for Scophony, Ltd., 38, Victoria-st., S.W.1. Harry W. Weedon (F.) & Partners, architects, 129, Lordwood-rd., Harborne, Birmingham 17: *C. Bryant & Son, Ltd., 65, Whitmore-rd., Birmingham 10.

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